

ISN 98939

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ATTACHMENT 1
AID EVALUATION SUMMARY - PART 1

1 BEFORE FILLING OUT THIS FORM READ THE ATTACHED INSTRUCTIONS
2 USE LETTER QUALITY TYPE NOT DOT MATRIX TYPE

IDENTIFICATION DATA

A Reporting AID Unit		B Was Evaluation Scheduled in Current FY Annual Evaluation Plan?		C Evaluation Timing	
Mission or AID/W Office <u>USAID/Zambia</u>		Yes <input checked="" type="checkbox"/> Slipped <input type="checkbox"/> Ad Hoc <input type="checkbox"/>		Interim <input checked="" type="checkbox"/> Final <input type="checkbox"/>	
(ES# _____)		Evaluation Plan Submission Date FY _____		Ex Post <input type="checkbox"/> Other <input type="checkbox"/>	
		Q _____			

D Activities Evaluated (List the following information for project(s) or program(s) evaluated if not applicable list title and date of the evaluation report)

Project No	Project/ Program Title	First PROAG or Equivalent (FY)	Most Recent PACD (Mo/Yr)	Planned LOP Cost (000)	Amount Obligated to Date (000)
611 0214	Zambia Agribusiness and Management Support [Hammermill COMPONENT] (dated) April 2 1995	FY86	12/31/96	\$15 700	\$12 100 Hammermill component About \$4 400

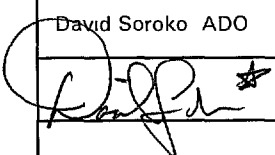
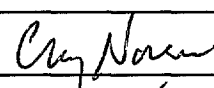
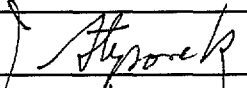
ACTIONS

E Action Decisions Approved by Mission or AID/W Office Director		Name Of Officer Responsible for Action	Date Action to be Completed
<p align="center">Action (s) Required</p> <p>Combine with other components (oil seed program) for final PACR</p>			
		David Soroko	September 1996
		(attach extra sheet if necessary)	(attach extra sheet if necessary)

APPROVALS

F Date Of Mission or AID/W Office Review Of Evaluation (Month) April (Day) 12 (Year) 1995

G Approvals of Evaluation Summary And Action Decisions

	Project/program Officer	Representative Of Borrower/Grantee	Evaluation Officer	Mission or AID/W Office Director
NAME (Typed)	David Soroko ADO	NCDP	CNoren	JStepanek
SIGNATURE		N/A		
DATE			3/15/96	4/10/96

* Signed as a formality. Evaluation completed in 4/95. I arrived at post in 9/95.

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A

A B S T R A C T

H Evaluation Abstract (Do not exceed the space provided)

The project aims to improve operational efficiencies of the Zambian agricultural marketing system for selected agricultural inputs and outputs and promote market development. The Hammermill Component is one of four components including an academic training component, the development of sunflower seed production and small scale oil seed press enterprises, and the promotion of promising small and medium scale agribusiness enterprises.

The Hammermill distribution and training component was implemented through the nation by a parastatal for small scale industry (SIDO), two non governmental organizations (Village Industry Services (VIS)), The cost to USAID primarily for training and distribution of government procured equipment which is specifically labelled for the hammermill component, approximately \$651,295 (for TA) to the U.S. technical assistance organization Volunteers for International Assistance (VITA). In addition, technical assistance expenditures equalling approximately 75 percent of expenditures of RONCO Consulting Corporation for the years 1992, 92/93, and 94 (about \$2,630,000) was spent on the Hammermill Component, and Kw 84 million in counterpart funds equal to \$1,110,000 was spent. The total identifiable dollar cost is \$4,400,000. The Government of the Republic of Zambia investments are estimated to exceed Kw 400 million (approximately \$4,820,000). Two additional U.S. NGOs are involved at various steps in the project: the International Executive Corps (IESC) and AFRICARE. The major findings and conclusions are:

- ° Hammermills, which are plentiful and well distributed through rural Zambia, represent a dramatic improvement of the life style of small scale farmers primarily as a means to reduce the time lost in hand grinding the staple, and as an alternate source of income for the traditional farmer. In three years of the activity, 1991 to 1994, hammermills increased in prevalence by 119 percent over the level prior to that period.

- ° The hammermill technical transformation has improved the nutrition of rural people.

- ° The NGO component broke down as the project became politicized and the NGO organization proved unable to properly manage technical funds. USAID withdrew and was unable to replace the organization to achieve institutional sustainability objectives.

- ° Training was delivered to more than half the equipment recipients and has continued to be a significant contributing factor to success of the nation's hammermill program.

The following lessons can be drawn from the Evaluation:

- ° NGOs should promote transparency in activities which are politically sensitive in order to safeguard their financial control and relations with donors.

- ° USAID projects in which NGO progress (as a high risk activity) figures prominently should involve several NGOs so that failure of one institution will not prematurely overturn the project objectives.

- ° The small scale, short term and site oriented training undertaken by the project in hammermill maintenance was very successful, with the demand exceeding training capacity.

C O S T S

I Evaluation Costs

1 Evaluation Team		Contract Number OR TDY Person Days	Contract Cost OR TDY Cost (U.S. \$)	Source of Funds
NAME				
David Martella, Agricultural Specialist, REDSO/ESA		N/A	N/A	REDSO/ESA
F.K. Sipula, University of Zambia Pumulo Muyatwa, Sipula, University of Zambia				
2 Mission/ Office Professional Staff		3 Borrower/Grantee Professional Staff		
Person Days (Estimate) _____ N/A _____		Person Days (Estimate) _____ N/A _____		

B

A I D EVALUATION SUMMARY - PART II

S U M M A R Y

J Summary of Evaluation findings Conclusions and Recommendations (Try not to exceed the three (3) pages provided) Address the Following Items

- * Purpose of Evaluation and Methodology used
- * Purpose of activity(ies) Evaluated
- * Findings and Conclusions (relate to questions)

- * Principal Recommendation
- * Lessons Learned

Mission or Office

USAID/ZAMBIA

Date This Summary Prepared

09/15/95

Title And Date of Full Evaluation Report

ZAMBIA AGRIBUSINESS AND
MANAGEMENT SUPPORT (ZAMS)
[Hammermill COMPONENT]

The Purpose of the Project is to increase agricultural production rural incomes and nutritional standards through improvements in agricultural marketing systems for both agricultural inputs and outputs The original project objective was to stimulate private sector investment in marketing mostly through small scale agricultural processing of fruits vegetables sunflower seeds and soybeans for domestic consumption The Project was redesigned in 1990 due to the barriers presented by high inflation devaluation of the Kwacha and credit shortages The new focus was to support the GRZ efforts to liberalize markets and encourage local private investment in small scale processing and marketing particularly in maize and oilseed The Hammermill component of the ZAMS project involves the distribution and maintenance training for approximately 1 580 mills of the approximately 4 000 hammermills which are estimated to be operating in Zambia The procurement of mills and the financing for purchase by operators of the mills was undertaken by the Government of the Republic of Zambia (GRZ) and was not a part of the USAID contribution the current fair market value of a mill is between \$1 100 and \$1 600 based on milling capacity

The Evaluation was focussed on 1) whether the hammermill program provided benefit for rural people and 2) whether the maintenance and training interventions of the project were sustained and a viable private sector small scale milling industry was established The Evaluation was not charged to undertake a cost benefit analysis of the program and the analysis did not carefully distinguish costs which went to the hammermill component versus the other three components of the project Foreign exchange cost of the program were spent primarily for the technical advisory services of two U S based institutions The counterpart cost to purchase and finance the mills which was funded by the GRZ USAID funding distributed a hammermills when procurement and financing of mills temporarily exhausted GRZ resources The counterpart cost analysis to establish the dollar equivalent for of this program during a period of turbulent exchange a rate inflation has not been attempted

The project established

- 3 training and maintenance centers by the NGO VIS and assisted in establishing 10 private maintenance centers
- 1500 additional jobs were created during the term of the activity from 1989 to 1993
- 75 full time jobs were created
- the business activity of VIS and the parastatal SIDO increased about 20% over the period
- 785 individuals were reported as receiving training in hammermill maintenance about half of the individuals who received the mills Thirty percent were women
- 60 public and private staff persons received short term training and 6 masters degrees in agribusiness were supported for a total of 16 3 student years of training (This training program serves all components of the ZAMS project)

Though the project is reported to have begun in 1989 the project activity effectively was launched in its final form in February 1991 and continued to September 1994

Unfortunately by December 1992 the NGO Village Industry Services (VIS) which was responsible to disseminate 162 of 1 580 mills was found to have serious waste fraud and abuse problems in handling USAID funds USAID withdrew its support and this important element of the sustainability dimension of the project was lost No effort was made to select an alternate NGO and continue to test for the sustainability of USAID s interventions The sustainability element of the project is to be addressed by the oil press distribution and maintenance component which is managed by others under the project

Maize is a staple food which is consumed by upwards of 90 percent of the rural population in three survey provinces Four results were tested by the project

- 1) an increase in volume in rural processing of maize
- 2) a reduction in transaction costs for processing and marketing of maize
- 3) an expansion of private sector activity in agricultural marketing
- 4) an increase in GRZ capacity to support private sector marketing of maize

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SUMMARY (Continued)

Increase in Volume in Rural Processing Maize consumption per meal was reported to increase by up to thirty eight percent when hammermilled maize was used. Readily available and cheaper supplies of milled maize means better consumption patterns by family members.

Hammermilling of farmers grain had increased by three times in popularity in the study zones during the distribution period of 1991 to 1993 to include about 20 to 30 percent of maize farmers (60 to 70 percent of all farmers).

Reduction in Transaction Costs Householders typically bring a week's worth of maize to be turned in meal at the mill. The time of wait to travel is 1-2 hours and the wait for processing may also total as much as three hours. This is approximately two days work in hand grinding the maize at the farm (three hours a day). For a cash cost of about twenty five to fifty U.S. cents, women in the farm gain approximately five days free of grain pounding chores and additional time to invest in other essential activities.

Other transaction costs have to do with the cost of mills. The evaluation revealed that over a period of 7 years, the cost of purchasing a hammermill has significantly been reduced such that for almost each and every farmer, hopes and plans to add a mill to his/her farm is an important objective of life. Between 67 percent and eighty three percent of farmers would be willing to trade a farm animal to pay for a mill of their own.

Expansion of Private Sector Agriculture Marketing Activity Expansion of Private Sector Activity in Mill. Eighty seven percent of hammermill owners report that their mills are profitable. This is fact holds despite a charge for milled maize of rural millers that is half the cost of the 30 government mills in urban areas. Over sixty percent of second mills were bought by cash from farmers rather than using the credit program offered by the Government. Just about all of third time purchasers used cash to procure the additional hammermill. This is a testimony to the profitability of the machines despite significant maintenance costs. The government mills were reported to be operating at only about half capacity during the period 1991) when hammermill distribution was being intensified in the rural areas. Hammermills were present in rural Zambia since 1966 but the majority of rural farmers only learned about them (34 to 36 percent) in 1993 after the critical mass of new mills were installed and publicity was generated by their use. By this time farmers in the survey areas (Southern, Eastern, Northern and Luapula Provinces) reported that a mill was on average no farther than 2 kilometers (about 1-2 hours) from their farm.

More than seventy percent of all farmers bought maize at least during the two barren months of December and January. Among those who milled their maize, fifty six percent said that the opportunity to make use of a hammermill (at lower cost) resulted in an improvement in their standard of living.

Increase in GRZ Capacity to Support Private Sector Marketing of Maize This hypothesis is unproven. The parastatal program in distribution of hammermills is not continuing. The USAID assisted element of the GRZ program constituted about sixty percent of the GRZ target of support for about 2,500 mills. Private sector assemblers/erectors, however, have become successfully installed in the market. Even at the heart of the USAID/GRZ program, private sector training in hammermill maintenance greatly exceeded the parastatal and NGO activity in the area.

Hammermill training and maintenance services are reportedly continuing on a small scale through USAID trained local technicians and VIS.

Technical assistance was decisive in publicizing the business of hammermill operations to small and medium size farmers. This program of information diffusion in local languages through a news letter is judged to be an important determinant in generating the demand for local milling services and the procurement of mills by small operators.

It can be justifiably argued, however, that the stimulus of public/private/USAID financing and distribution of machines between 1991 to 1993 was essential to establishing hammermills as common agricultural machinery items in private supplier shops and as an option for cash generation among farmers. Shelters for mills have become substantially more elaborate and serviceable structures as a result of government publicity. There are unexplained differences between official records and survey results, e.g. of the 105 ZAMS and private sponsored owner buyers of hammermills who were surveyed in the Evaluation, about eighty percent reported receiving no formal training. ZAMS distributors, however, reported training about half of mill purchasers/operators. Among surveyed hammermillers, over seventy percent have access to or have seen the ZAMS Newsletters.

ATTACHMENTS

K Attachments (list attachments submitted with this Evaluation Summary always attach copy of full evaluation report even if one was submitted earlier attach studies surveys e t c from on going evaluation if relevant to the evaluation report)

Copy of the Hammermill Evaluation Annex 1 3 and A through H

COMMENTS

L Comments By Mission AID/W Office and Borrower/Grantee on Full Report

The Hammermill Evaluation satisfactorily responded to the basic issues requiring assessment in the project The Hammermill Evaluation is hampered by an exceedingly wide ranging survey scope which was adopted through several significant aspects of the study objectives were not in the end completed

Specifically there was no attempt to distinguish efficient VIS and SIDO serviced mills from poorly operated installations assess the efficiency of spare parts/maintenance training/and information centers and assess the differential efficiency of various information media approaches One of the final deliverables under the RONCO contract was to upgrade 35 urban hammermills to enable them to compete with large scale public millers There is no reference to this in the Evaluation

In addition the following issues/elements were not incorporated as would be expected in the report

A Lessons Learned section related to activities of other components of the project (clearly USAID should adopt a better cost attribution system than has been in practice in the past)

A systematic integration of surveyed material findings against the four Assessment Issues The Evaluation notes however that technical advisory services to provide impact monitoring over 3 year was an unrealized failure This was caused by the contractor s failure to conceptualize the program goals and match the capacity of data gathering/analysis to project related activities and available resources

A discussion of the efficiency and special explicit contributions of the several contract technical advisory teams working in hammermills

The effort to professionalize the government NGO Village Industries Services (90% of staff were seconded from GRZ ministries) was a victim of poor planning which left the institution vulnerable to political pressure

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**ZAMBIA
AGRIBUSINESS AND MANAGEMENT
SUPPORT PROJECT
(611-0214)**

EVALUATION REPORT

**Prepared by
David R Martella
April 2, 1995**

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ACRONYMS

CIP	Commodity Import Program
CPSP	Country Program Strategic Plan
CY	Calendar Year
DFA	Development Fund for Africa
EOPS	End-of-Project Status
FY	Fiscal Year
GDP	Gross Domestic Product
GRZ	Government of the Republic of Zambia
INDECO	Industrial Development Corporation
Kw	Zambian Kwacha (local currency)
LC	Local Currency
MAFF	Ministry of Agriculture, Food and Fisheries
MCTI	Ministry of Commerce, Trade and Industry
MMD	Movement for Multiparty Democracy
MMDP	Maize Market Decontrol Program
MOF	Ministry of Finance
MPND	Ministry of Planning and National Development
NERP	New Economic Reform Program
NFA	Non-Federal Audit
NGO	Non-Governmental Organization
NHP	National Hammermill Program
PAAD	Program Assistance Approval Document
PACD	Project/Program Activity Completion Date
PAM	Program Against Malnutrition
PES	Project Evaluation Summary
PIL	Project/Program Implementation Letter
PIR	Project/Program Implementation Review
PSC	Personal Services Contract
RCMO	Regional Commodity Management Office, REDSO/ESA
SAP	Structural Adjustment Program
SIDO	Small Industries Development Organization
USAID	United States Agency for International Development
VIS	Village Industry Service
VITA	Volunteers in Technical Assistance
ZAMS	Zambia Agribusiness and Management Project
ZATPID	Zambia Agricultural Training, Planning and Institutional Development Project
ZCCM	Zambia Consolidated Copper Mines
ZCF	Zambia Cooperatives Federation

ZAMBIA AGRIBUSINESS AND MANAGEMENT SUPPORT (ZAMS)
PROJECT EVALUATION
PROJECT NUMBER 611-0214

I EXECUTIVE SUMMARY

A Introduction

The Zambia Agribusiness and Management (ZAMS) Project was designed as an agricultural marketing project in which marketing was defined to include essentially all activity from the farm gate to the consumer, including the supply of agricultural inputs to farmers. The project was designed to be flexible in the kinds of marketing or agribusiness activities to be assisted, so long as the ventures were financially and technically feasible, i.e., benefit cost ratios, or internal rates of return, would be calculated for each specific activity for which assistance had been requested. Besides technical assistance and training, the project was to provide foreign exchange for the importation of machinery and equipment for private sector clients identified by project implementors. These private sector clients were profiled as small- to medium-scale agribusiness entrepreneurs with viable investment opportunities.

Implementation of ZAMS began in July 1989. A number of clients were identified with investment ideas consistent with the project's criteria, and business plans were developed for several of these. While many feasibility studies were conducted, only four equipment procurements occurred because of sky-rocketing inflation, devaluation of the kwacha, credit shortages, and in general, the unfavorable business environment.

Following an intensive internal project review during August/September 1990, USAID/Zambia temporarily suspended the implementation of the project and proceeded with a redesign of the project to achieve significantly greater impact while maintaining the project's original purpose and thrust. While the goal and purpose of the project did not change, the redesign focused project interventions on the support of GRZ efforts to liberalize markets and encourage local investment in the small-scale processing and marketing of grains, particularly maize and oilseeds. This refocusing entailed a shift away from generalized agricultural sector support under the stagnant import support activity to specific interventions limited to third country and in-country training and NGO activities.

This evaluation of the Zambia Agribusiness and Management Support Project was scheduled to assess the overall success or failure of the project to achieve the project goal and purpose, and to assess the various output impacts achieved. Although the project activity completion date is not until September 1995, timing of the evaluation was deemed appropriate, since it coincides with the completion of the prime contractor's contract. The Africare oilseed activities were not included in the evaluation. However, spill-over effects from the oilseed activities regarding the establishment of market centers and/or hammermill activities including monitoring and evaluation and training are noted in the evaluation report.

B Project Description

The project aims to improve agricultural marketing systems through technical assistance, training, commodities, and institutional strengthening of selected Zambian NGOs involved in providing marketing related services. The GRZ supported these efforts through local currency grants and/or loans for *inter alia* in-country training, technical experts, and institutional strengthening efforts.

1 Program Goal and Purpose

The project goal is to increase Zambia's agricultural production, rural incomes, and nutritional status through improvements in the agricultural marketing system for both agricultural inputs and outputs. Objectively verifiable indicators for the project goal are increased allocation of farm resources to economically viable activities, increased marketed output, and reduction in importation of selected agricultural products. Objectively verifiable indicators for the project goal in the target areas are increased rural income and employment, greater availability and reduced cost of selected inputs and outputs, and positive change in nutritional status.

The specific project purpose is to improve the operational efficiency of the agricultural marketing system for selected agricultural inputs and outputs and promote market development. Objectively verifiable indicators for the project purpose are increased volume of rural processing for maize and oil seed, reduction in transaction costs for processing and marketing, expansion of private sector activity in agricultural marketing, increased GRZ capacity to support private sector marketing, and an increase in national transport capacity to distribute agricultural inputs and outputs.

2 Expected Outputs

In order to accomplish the purpose of the project, the following outputs were delineated:

- ▶ Increased processing and marketing of maize and edible oil in rural areas using appropriate small-scale technology
- ▶ Expanded intermediate and final agro-processing capacity in rural areas
- ▶ Improved availability of tires, tubes and spare parts for the transport system
- ▶ Improved human resources contributing to market system improvements
- ▶ Input supplies provided on time and in desired quantities for use by small-scale farmers
- ▶ Increased employment
- ▶ Improved ability of selected NGOs to provide services to small-scale entrepreneurs

3 Expected End-of-Project Status

By the end of the project, it is expected that the following will be achieved:

- ▶ increased volume of rural processing of maize and oil seed,
- ▶ reduction in transaction costs for processing and marketing,
- ▶ expansion of private sector activity in agricultural marketing,
- ▶ increased GRZ capacity to support private sector marketing, and
- ▶ increased national transport capacity to carry agricultural inputs and outputs

C Summary of Evaluation Conclusions

Zambia is the second most urbanized country in sub-Saharan Africa, with over 50 percent of the population living in urban and peri-urban areas. The rapid migration has compelled the GRZ to focus on interventions that stimulate the motivation to remain in rural areas through increasing demand for agricultural products at higher prices, new business/income-generating opportunities, and better nutrition. Under past policies through which the state dominated agricultural marketing, ZAMS had limited scope to influence improvements and efficiency of the marketing system as a means to accomplish the project's goal. Focussing on rural hammermills and small-scale oilseed processing was a way to assure some impact.

However, during the course of the project's implementation, the socialist-leaning UNIP government was defeated in a democratic election in October 1991, and a new, market-oriented government assumed power. The installation of the MMD government brought with it a reversal in economic philosophy and policy that provided an opportunity for ZAMS to achieve a far higher level of success. This opportunity did not desist even as Zambia faced the most severe drought in southern Africa's history.

The project redesign in 1991 placed a heavy emphasis on NGO/PVO involvement as co-implementors in the implementation of ZAMS. The prime contractor was to play a more supportive role in providing assistance for training, monitoring and evaluation, and dissemination of information. However, the NGO sector in Zambia capable of assisting the development of small-scale agro-processing and marketing enterprises is small and weak. In fact, at the time the project was redesigned there were mainly two organizations, VIS and SIDO (a parastatal), existing in Zambia with country-wide outreach. USAID/Zambia's efforts to strengthen these organizations under the ZAMS umbrella were only partially successful.

VIS, under the tutelage of ZAMS funded VITA technical assistance, was a prime mover in the GRZ's National Hammermill Program having received soft loans from the GRZ of approximately Kw63 million for the acquisition and distribution of hammermills. As the economic conditions changed over time, this funding was not adequate to cover the distribution costs or the cost of basic training in operation and maintenance of the hammermills. Additional USAID counterpart funding was obtained and ZAMS technical assistance helped with the development and institutionalization of an appropriate training program at VIS. Nevertheless, VIS was incapable of getting a handle on its management responsibilities and after an external audit was unable to account for all the counterpart funds VIS had received, USAID terminated the VIS activity.

VIS involvement in the National Hammermill Program did not end when USAID terminated its support and they have since continued to distribute, both new and repossessed, hammermills in the rural areas. The cadre of VIS trainers trained through the ZAMS activity have since moved on and much of the vitality of the VIS training activity is no longer there. However, VIS's dedication to the development of small and micro-enterprises will continue as their strength in the future.

More than 2,500 hammermills were distributed through the GRZ's National Hammermill Program over the project implementation period. The number targeted for distribution by the ZAMS co-implementors represented approximately 30 percent of the total distributed. In a way, numbers don't count since an underlying objective was in the establishment of sustainable hammermill enterprises.

In effect, the termination of the VIS/VITA activities eliminated the ZAMS support to strengthen indigenous NGOs in the development of small-scale agro-processing and marketing activities which was a major thrust of the ZAMS redesign. USAID/Zambia did not come up with an alternative to fill this void, as no viable local NGO/PVO existed. Thus, when the hammermill activity comes to a conclusion, the supporting agency envisioned by the project designers to remain in place to continue the development of small-scale agro-processing enterprises will not exist.

An earlier evaluation of ZAMS activities completed in June 1992, had little constructive to say regarding the success or failure of the activities being undertaken, due to the brief implementation period. However, several recommendations in the report allude to the design of a follow-on activity, which if the project had been redesigned at that time may have been useful. The recommendations specific to the on-going ZAMS activity, i.e., an audit of VIS activities, an assessment of the viability of regional market centers, etc., were carried out over the ensuing implementation period.

RONCO's current agenda closely follows the direction recommended for the proposed follow-on activity without any modification being made in the project documentation, i.e., "project implementation should cover the wide angle, systems, large applications, and direct interventions at the field level." This has led to a major deviation in the "supporting" role envisioned for the prime contractor in the PP supplement. The support being provided to progressive business entrepreneurs in the pilot market activities may have been warranted given the stage of market development in the liberalized market environment. However, the current focus is away from small-scale agro-processing and marketing enterprises, which was to be primary thrust of the ZAMS project, to one of agro-processing and marketing with "small-scale" discussed in terms of outreach and outgrower schemes.

The ZAMS monitoring and evaluation system is complex and not very useful. The collection of market price data is sporadic and not subject to rigorous statistical analysis, since the time series are incomplete. For example, ZAMS/RONCO collected prices for one or two months in a given set of markets, and then collected prices for the next several months in a different set

of markets. Although several markets in the second set may be the same as the markets in the first set, a complete time series of prices doesn't exist for any one market. In addition, ZAMS/RONCO collected a considerable amount of extraneous data and never analyzed it, i.e., it's time to go out and do another study. After the M&E systems original design, little seems to have been done to verify/validate the need for the data being collected and/or modify the system to make it more relevant.

One niche where ZAMS has had a tremendous impact is in training. Initially, it was basic training in operations and maintenance of hammermills and oilseed presses and then expanded into training programs which supported the development of viable and sustainable small-scale agro-processing enterprises. These "healthy" small-scale agro-processing enterprises are found both in the peri-urban and rural areas. In all aspects of training, the ZAMS - SIDO collaborative efforts have obtained the desired results. Thus, ZAMS was very successful in enhancing the sustainability of the small-scale agro-processing (hammermill) enterprises.

In general, ZAMS training activities have been right on target. This is attributable to the collaborative efforts of all co-implementors, RONCO, VITA, VIS, SIDO, and Africare. The long-term training has been completed and the short-term third-country training was successfully re-directed into short-term, in-country training activities. The number of participants has in most cases exceeded expectations although the demand for further training activities is quite high.

Considerable progress was made over the project period in achieving the project goal and purpose. The increased volume of agricultural products processed, both in the rural and semi-urban areas, resulted in more meals being consumed, especially by the rural population, and thus an improvement in the nutritional status of the rural and semi-urban population. It also resulted in a reduction in cost of maize meal to the rural and semi-urban consumers. Several activities undertaken by the project to improve the efficiency in the marketing system are promising, although their adoption by marketing agents in the long-term may be negligible.

However, the impact of those activities initiated in phase I of the project, i.e., the foreign exchange program for the importation of spares for the transport industry and the procurement of agro-processing equipment and supplies, is not evident in the present political/economic setting in Zambia. Nevertheless, ZAMS activities supporting the market liberalization process in Zambia are notable.

**ZAMBIA AGRIBUSINESS AND MANAGEMENT SUPPORT (ZAMS)
PROJECT EVALUATION
PROJECT NUMBER 611-0214**

EVALUATION REPORT

II INTRODUCTION

A Purpose of Evaluation

The Zambia Agribusiness and Management (ZAMS) Project was designed as an agricultural marketing project in which marketing was defined to include essentially all activity from the farm gate to the consumer, plus the supply of agricultural inputs to farmers. The kinds of activities envisioned were mostly small-scale agricultural and food processing activities, such as the processing of fruits and vegetables, sunflower seeds, and soybeans for domestic consumption. The rationale was to stimulate private sector investment in marketing and agribusiness activities.

Implementation of ZAMS began in July 1989 and a number of clients were identified with investment ideas consistent with the project's criteria, and business plans were developed for several of these. However, given the economic policies and climate at the time, the foreign exchange element of the project, which was included partly as a way for USAID to buttress the country's foreign exchange situation, was not operational. Thus, following an intensive project review during August/September 1990, the project was refocused on interventions to support the GRZ's efforts to liberalize and encourage local investment in the small-scale processing and marketing of grains, particularly maize meal and oil seeds. This refocusing entailed a shift away from generalized agricultural sector support under the stagnant import support activity to specific interventions limited to third country and in-country training and NGO activities. However, the goal and purpose of the project did not change.

This evaluation of the Zambia Agribusiness and Management Support Project was scheduled to assess the overall success or failure of the project to achieve the project goal and purpose, and to assess the various output impacts achieved. Although the project activity completion date is not until September 1995, timing of the evaluation was deemed appropriate, since it coincides with the completion of the prime contractor's contract.

B Terms of Reference

The terms of reference for the evaluation are

- ◆ Assess the nutritional improvements in areas where food processing activities are supported,

- ◆ Assess the economic benefits of increased rural processing from the viewpoint of the consumer,
- ◆ Assess the economic viability of small-scale rural processing enterprises,
- ◆ Assess the project outputs with respect to the ZAMS's hammermill program and its linkages/relative importance to the GRZ's National Hammermill Program, and
- ◆ Assess the prime contractor's impact on the hammermill program through training, monitoring and evaluation activities, technical assistance and agribusiness development

The detailed scope of work for the project evaluation is included in Annex A

C Outline of Report

This project evaluation report is divided into five sections introduction, background, methodology, results and analysis, and conclusions and recommendations. A draft report was submitted to USAID/Zambia, with copies to ZAMS and RONCO, for comment. This final report was prepared incorporating the comments on the draft report and submitted to USAID/Zambia.

III BACKGROUND

Historically Zambia's economy has been heavily dependent on copper production. Copper sales have accounted for over 90 percent of the total export earnings and 50 percent of Gross National Product. Since the mid-1970's, the decline in copper prices on the world market and increases in petroleum prices resulted in Zambia's experiencing serious economic problems. Among these were

- a decline of up to 33 percent in real GDP per capita,
- soaring external debt of over \$7 billion which equals 500 percent of export earnings,
- rising unemployment while population is growing rapidly at a 3.7 percent growth rate,
- widespread rural poverty and rapid rural to urban migration, and
- an annual inflation rate of over 100 percent

In anticipation of a recovery in receipts from copper exports and decrease in the prices of petroleum products, financial policies between mid-1970's and 1986 were geared to maintaining subsidized consumption levels and living standards. Since no significant recovery occurred, these policies resulted in large budgetary and external deficits. Economic performance was also affected by strong public interventions in the economy such as controls in production, fixed pricing on marketing and processing of maize and other crops. These actions led to serious misallocation of resources and the suppression of private sector initiative.

The New Economic Recovery Program (NERP) introduced in May 1987, represented a major shift in the orientation of Zambian economic policy. The main thrust of NERP objectives included growth through diversification, reduced foreign exchange outflow and dependence on imports, and stabilization through the control of inflation. The 6.7 percent growth rate recorded in 1988, compared with that of 2.2 percent growth rate in 1987, was credited to this new orientation.

The MMD Government, which was voted to power in October 1991, clearly declared its commitment to improving the economy. The Government has taken pragmatic measures, including the removal of subsidies on maize meal, decontrol of maize prices, a reduction in Government spending and introduction of a free market economy. The GRZ's 1994 "balanced" budget, bears testimony as to their seriousness and commitment to the liberalization effort.

Faced with a crushing foreign debt, a shrinking economy and the pressure to cut public expenditure, under the Structural Adjustment Program (SAP), the newly elected government eliminated the Coupon System, which targeted food subsidies to vulnerable groups in urban areas, and simultaneously reduced subsidies on maize being paid to the large-scale mills. Hammermilling of locally available grain in rural and peri-urban areas was seen as one way of reducing the shock to consumers when the maize subsidies, representing approximately 14 percent of the national budget, were eliminated.

Zambia is one of the countries in Africa said to be experiencing food shortages while at the same time being well known for its abundant untapped natural resources. It is estimated that out of the total land area of 75.3 million hectares, over 42 million hectares are suitable for crop production and yet only 2.5 million hectares (6 percent) are currently under cultivation. Maize, the country's major staple, is produced on 60 to 70 percent of the cultivated land. Most of the agricultural production is rainfed, except on some large-scale commercial farms that have developed irrigation systems.

Zambia's maize production fell from 2.0 million metric tons to 1.0 million metric tons per year between 1988 and 1990, at a time when national maize consumption per year was estimated to be approximately 1.4 million metric tons and rising. Before the drought in 1991-92, the country was importing an average of about 148,000 metric tons per year to cover the shortfall in production. For a country undergoing economic constraint, importing foodgrains is an expensive exercise. During the drought, maize production was only about a third of the usual national maize harvest.

The bulk of the maize produced in Zambia comes from four provinces: Eastern, Central, Southern and Northern. These contribute close to 90 percent of the national maize stock. The 1990-91 drought in the southern half the country had devastating effects on crop production. This decline in production was felt by both rural and urban households who experienced food shortages. However, the deficit areas that in the past benefitted most from subsidized maize were effected the worst, primarily because private traders designated by the Government were unable to react fast enough to bring food shortages under control.

The issue of availability of adequate food supply nation-wide is essentially a matter of production and marketing, while at the household level it involves production, retention and income. In the past, government policies paid excessive attention to the production of maize at the expense of other staple crops (sorghum, millet and cassava). As a result, maize not only became the main food and cash crop, but also became heavily politicized in all aspects of its production, marketing and consumption. The crop was heavily subsidized in its production, marketing, processing and pricing. Thus, until 1991, the agricultural marketing policy in Zambia has been synonymous with maize marketing policy.

As the various subsidies were eliminated, maize production was affected by rising costs. Original projections were that rural small-scale producers would be affected most and since they constitute over 90 percent of the maize farming community and produce 60 percent to 70 percent of the country's marketed maize, national food production was at stake. Initial steps to prevent this catastrophe from happening were through the promotion and support for production of alternatives such as rain-fed wheat, soybeans, groundnuts, sorghum, millet, and cassava. Although some of these cropping options have been adopted, primarily to insure the small-scale producers' subsistence, the anticipated negative response from small-scale producers did not materialize.

The most serious nutrition problem in Zambia is under-nutrition. Children being weaned are the most vulnerable group. Extreme and easily recognized forms of malnutrition, Kwashiorkor and Marasmus, are not found very often, but less easily recognized stunting is widespread, involving 25 percent of all children under five. Approximately 33 percent of children under the age of five are malnourished in some way or other. The National Food and Nutrition Commission estimates that 48 percent of children's deaths in hospitals are malnutrition related while 50 percent of all hospital admissions are due to hunger-related diseases. Malnutrition varies with the seasons, being highest in the peak labor time of harvesting and planting, when the caloric intake requirements are greatest. By then, stored grains, for the most part, have been exhausted by households.

The GRZ has for a long time concentrated its efforts on promoting the production of maize as a means of combating malnutrition. The underlying assumption was that increased production coupled with increased consumption of maize and maize products, would result in reduced malnutrition.

A The Maize Milling Industry in Zambia

Commercial maize milling in Zambia has largely been located in urban areas and consisted of large-scale mills, primarily government owned, and a few smaller private mills. In 1986, the private mills were nationalized and all mills came under state control. This high level of involvement by the Government in milling, left little room for private enterprise in maize processing. Three government organizations have managed all 30 of the existing mills. These are Zambia Cooperative Federation (ZCF), although an umbrella organization for private interests continues to receive government grants to finance operations and capital projects,

Industrial Development Corporation (INDECO), a government parastatal, and Mulungushi Investments, a Zambia Consolidated Copper Mines (ZCCM) subsidiary, of which the government is the majority shareholder

While the combined installed capacity of these 30 mills is slightly more than 1.3 million metric tons per annum, only 696,000 metric tons (51.6 percent of 1991 capacity) on average is actually being utilized. The installed capacity compares favorably with the estimated demand for maize meal of approximately 1.4 million metric tons, but the realized capacity has fallen short of demand by at least 49 percent.¹ Furthermore, a continuing downward trend in the quantity of commercially milled maize meal supplies has been occurring for some time. This downward movement in mill production, coupled with an increase in urban population over the same period, has resulted in the industries' meal production nearing or even falling below the break-even point for urban consumption requirements, i.e., 542,000 metric tons of breakfast and roller meal produced versus a 571,000 metric ton consumption requirement.² Table 1 below shows combined installed and realizable capacities at the provincial level.

About 60 percent of the large-scale mills are located in towns along the line of rail stretching from Livingstone, in the south, to Chilabombwe, in the north. These mills possess 78 percent of the total milling capacity. Sixty-percent of the total capacity is at mills located in Lusaka and the Copperbelt.³ Thirty-three percent of the mills are located in the Lusaka and Copperbelt Provinces despite deliberate efforts by INDECO and ZCF to decentralize mills away from urban centers. (See Table 2 below)

In order to keep the price of maize meal at affordable levels, the government paid subsidies for transportation, milling costs, fertilizer, and maize handling costs. Efforts to reduce subsidies, such as through the Coupon System, failed due to administrative problems.

B The National Hammermill Program

Before the National Hammermill Program (NHP) began to place small mills in rural areas, except for widely scattered private or institutionally owned mills (mainly associated with churches), hand milling by women was the only means to process maize and other grains for most of rural households. The vast majority of rural households were constrained by distance and transportation costs from buying the products of the large mills except the more well-to-do families, who had the alternative source of maize meal from shops, or directly from the larger mills.

¹ Development Bank of Zambia. Maize Mills in Zambia, 1991.

² Ministry of Commerce, Trade and Industry. ZATPID II. Evaluation of the large Scale Milling Industry in Zambia, 1992.

³ Ministry of Commerce, Trade and Industry, ZATPID II. Evaluation of the large Scale Milling Industry in Zambia, 1992.

Table 1 CAPACITY, PRODUCTION AND UTILIZATION OF LARGE-SCALE MAIZE MILLS - 1990

Province	Installed Rated Capacity MT/Yr	Actual Production MT/Yr	Capacity Utilization Percent
SOUTHERN	135,000	87,080	64.5
LUSAKA	388,800	131,392	33.8
CENTRAL	116,400	53,519	46.0
COPPERBELT	443,700	323,151	72.8
NORTHERN	38,100	9,600	25.8
EASTERN	65,500	25,800	40.0
LUAPULA	64,800	25,920	40.0
NORTH WESTERN	46,800	12,900	27.6
WESTERN	51,300	26,700	52.1
TOTAL	1,349,400	696,062	51.6

Source: Development Bank of Zambia: Maize Mills in Zambia, 1991. Baseline of Hammermilling in Zambia, Paul Kaplan and Joseph Temba, December 1992.

The two principal objectives of the GRZ's National Hammermill Program were (1) to reduce maize meal production costs and therefore the consumer price on meal, and (2) cut down on crowds at maize meal selling points by increasing alternative sources of supply, particularly in peri-urban areas.

Other advantages envisaged from locating hammermills throughout the country were to generate employment, improve nutrition, and to help create a business class of entrepreneurs. Equally important, hammermills would stimulate local processing of maize, thereby providing an alternative market for maize and increasing the local retention of harvests. Before market liberalization, many households are known to have delivered nearly all their maize to cooperatives immediately after harvest, assuming subsidized maize meal would be available to buy when they needed it. When payments from cooperatives arrived late, they went hungry.

What became known as the "National Hammermill Program" began with the allocation in 1991 of Kw63 million in soft loans, i.e., 5 percent interest, given to the Small Industries Development Organization (SIDO), Kw50 million, and the Village Industry Service (VIS), Kw13 million, for the importation of diesel engines and the domestic fabrication of hammermills. During the first phase of the NHP, SIDO and VIS distributed 500 and 72 hammermills, respectively. The Zambia Cooperative Federation (ZCF) also received a similar financial arrangement to distribute hammermills to district cooperatives and rural primary societies throughout the country. The Fourth National Development Plan (1989-1993) budgeted Kw21 million for ZCF to distribute

Table 2 OWNERSHIP AND LOCATION OF LARGE-SCALE MAIZE MILLS

OWNER	PROVINCE	TOWN
1 INDECO GROUP		
1 1 National Milling Branches	Cairo Rd Br, Lusaka M/mbo Rd Br Lusaka Kabwe Br, Central L/stone Br, Southern	Lusaka Lusaka Kabwe Livingstone
1 1 1 Choma Milling	Southern	Choma
1 2 INDECO Industries	Copperbelt Luapula Central Lusaka Northern	Ndola Mansa Mkushi Luangwa Kasama
1 3 Almagamated Milling Mongu Branch E C Milling Girardi Milling Robinhood	Western Lusaka Lusaka Lusaka	Mongu Lusaka Lusaka Lusaka
1 4 United Milling Chingola Branch Solwezi Branch	Copperbelt Northwestern	Chingola Solwezi
2 0 ZCF	Eastern Eastern Eastern Luapula Northern Northern N Western Western	Chipata Petauke Lundazi Nchelenge Kasama Chinsali Kasempa Kaoma
3 0 ZCCM Olympic Milling Jamas Milling Chico Milling Antelope Milling Chimanga Changa Kabwe Milling	Copperbelt Copperbelt Copperbelt Copperbelt Copperbelt Central	Mufulira Kitwe Kitwe Luanshya Ndola Kabwe

Source ZATPID II 1992 Evaluation of the Large Scale Milling Industry in Zambia

360 units⁴ ZCF Finance Services was able to distribute 369 hammermills at a cost of Kw16,240,818 09⁵

In a second phase of the NHP, the GRZ provided further soft loan money to SIDO (Kw200 million) and VIS (Kw50 million) to distribute 500 and 154 hammermills, respectively. By January 1992, SIDO and VIS had distributed 800 and 197 hammermills, respectively, through the GRZ soft loan financing arrangements. This sudden increase in the rate of distribution during the last quarter of 1991, is attributable to the political campaigns prior to the elections.

The government chose to use VIS, SIDO and ZCF to execute the National Hammermill Program because of their being relatively well equipped for wide geographic distribution. Because SIDO and ZCF were better endowed with manpower and support facilities than VIS, they were given the mandate to distribute most of the hammermills in the program. Although the three organizations had previously been involved in distributing hammermills, none of them had carried out a program with as large of a credit component. These three agencies combined distributed 1,319 hammermills by June 1992 (see Table 3 below).

Figure 1 below charts the distribution of hammermills by SIDO, VIS, ZCF, LIMA Bank and others up to June 1992. The provincial pieces of the pie would not be very much different in size except for Western Province, which with its sandy soil and consequent low maize production, imports and mills maize produced in other provinces. Thus, only a few hammermills are found in the Western Province.

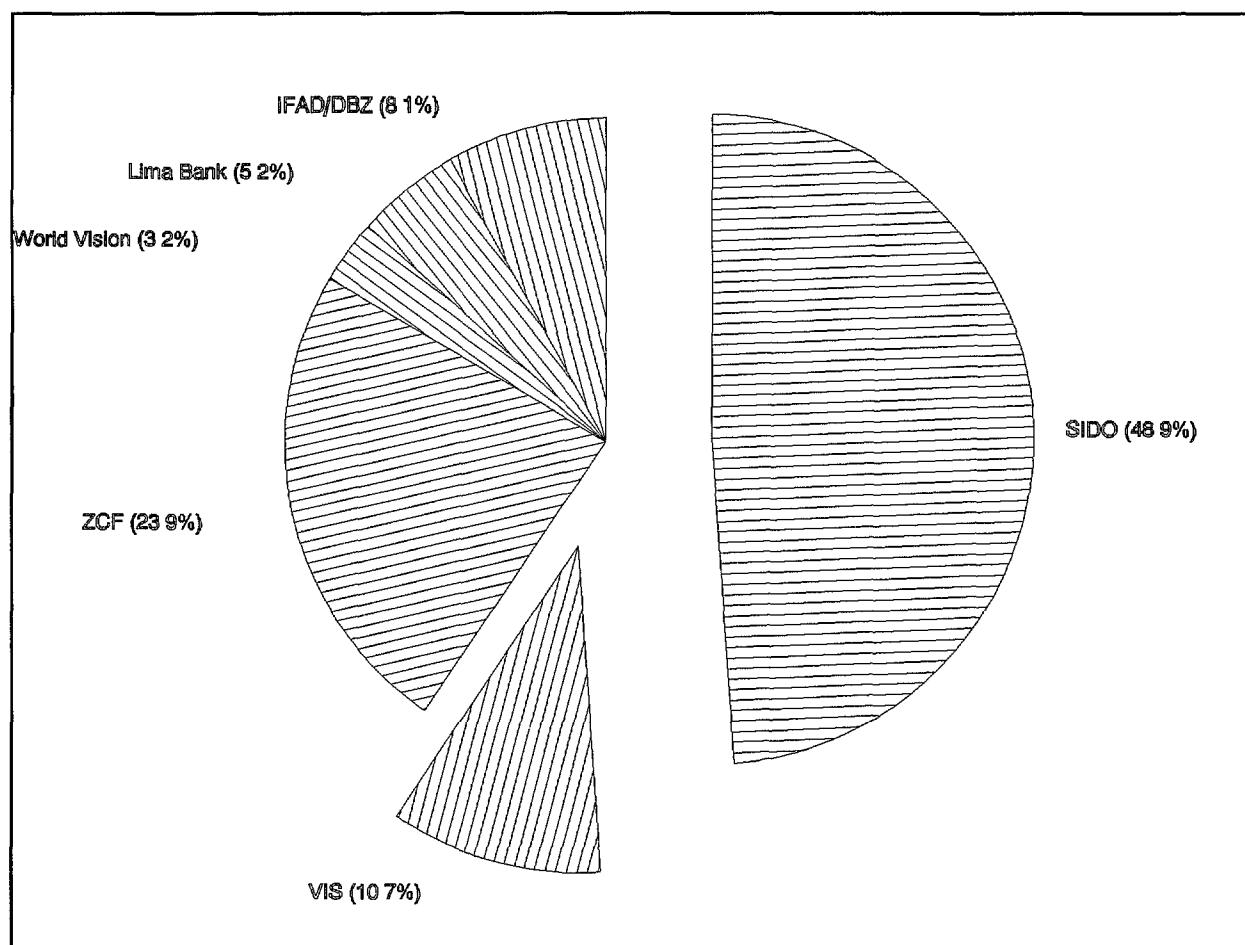
Table 3 below shows the hammermills distributed by province through the different organizations involved in the National Hammermill Program. It is not surprising that the provinces with high maize production received the largest numbers of hammermills and that the organizations' distribution also follows this pattern.

Acquiring and distributing this large number of mills was not a small task for SIDO and VIS. Making sure that the program was a success, i.e., "ensuring that the owners can operate profitably and over a long period of time," in other words that the hammermill enterprises were sustainable, was a challenge for the implementing organizations. The response from GRZ came in the form of providing extra money for spare parts, tools, and vehicles for delivering mills to buyers. However, it was clear from the outset that the GRZ had not provided resources for monitoring the performance of hammermills and the competence of their owners, managers and operators. The aspect of monitoring performance of hammermills was vital for SIDO and VIS because the loan money provided to them had to be recovered and paid back to Government.

⁴ National Commission for Development Planning. New Economic Recovery Program - Fourth National Development Plan 1989-1993, Lusaka, 1989.

⁵ ZAMS Report, July 1991.

Figure 1 DISTRIBUTION OF HAMMERMILLS BY ZAMS MONITORED ORGANIZATIONS



C Project Background

The Zambia Agribusiness and Management (ZAMS) Project was conceived as an agricultural marketing project in which marketing was defined to include essentially all activity from the farm gate to the consumer, including the supply of agricultural inputs to farmers. The project was designed to be flexible in the kinds of marketing or agribusiness activities to be assisted. As long as the ventures were financially and technically feasible, i.e., benefit cost ratios, or internal rates of return, were to be calculated for each specific activity, consideration would be given for the assistance requested.

Besides technical assistance and training, the project provided foreign exchange at the official rate⁶ for the import of machinery and equipment for private sector clients identified by project

⁶ At the time of project design the exchange rate was kwacha 8 per U S dollar 1

implementors as small- to medium-scale agribusiness entrepreneurs with viable investment opportunities. Given the economic policies and climate at the time the project was designed (mid-1988), the foreign exchange element was included partly as a way for USAID to buttress the country's foreign exchange shortfall. An initial \$2 million was authorized by USAID in early 1989 to import spare parts, mainly tires and tubes, for the transport sector.

Table 3 HAMMERMILLS DISTRIBUTED IN PROVINCES - 1991/1992

Province	SIDO	VIS	ZCF	World Vision	Lima Bank	IFAD/DBZ	TOTAL
CENTRAL	108	31	52	8	21	0	220
C-BELT	62	18	37	3	9	0	129
EAST	152	30	88	6	10	0	286
LUAPULA	113	15	43	11	0	0	182
LUSAKA	8	11	7	2	4	0	32
NORTH	119	29	33	7	0	5	193
NORTHWEST	56	5	25	3	0	107	196
SOUTH	96	17	87	11	18	0	229
WEST	58	13	6	0	20	16	113
TOTAL	772	169	378	51	82	128	1,580

Source: ZAMS Monitoring and Evaluation Quarterly Reports, June 1992

Implementation of ZAMS began in July 1989. A number of clients were identified with investment ideas consistent with the project's criteria, and business plans were developed for several of these. While many feasibility studies were conducted, only four equipment procurements occurred because of sky-rocketing inflation, devaluation of the kwacha, credit shortages, and in general, the unfavorable business environment.

Following an intensive internal project review during August/September 1990, USAID/Zambia temporarily suspended the implementation of the project and proceeded with a redesign of the project to achieve significantly greater impact while maintaining the project's original purpose and thrust. While there was not a change in the goal and purpose of the project, the redesign focused interventions on the support of GRZ efforts to liberalize markets and encourage local investment in the small-scale processing and marketing of grains, particularly maize and oilseeds. This refocusing entailed a shift away from generalized agricultural sector support under the stagnant import support activity to specific interventions limited to third country and in-country training and NGO activities.

Under the refocused project, the main thrust was the provision of technical assistance by NGOs dealing directly with small-scale rural food processors and supporting small-scale agribusiness enterprises, Table 4. Contract technical assistance continued in a role that directly involved

itself with, and in support of, implementation ZAMS training and monitoring specialists coordinated the training and monitoring activities among participating NGOs

Table 4 PROJECT EXPENDITURE BY COMPONENT

Activity	Dollars	Kwacha
TECHNICAL ASSISTANCE		
RONCO	4,910,927	45,063,000
Africare	1,818,000	4,680,000
VITA	1,119,059	
VIS		95,983,189
SIDO		21,850,000
IESC		4,252,000
PARTICIPANT TRAINING	451,000	
TRANSPORT SECTOR COMMODITIES	1,874,013	
AGRICULTURE MARKETING COMMODITIES	412,469	
TA SUPPORT COMMODITIES	1,358,987	
EVALUATION/AUDIT AND OTHER	181,280	
TOTAL	12,125,735	171,828,189

Sources Dollars = ZAMS documents and USAID/MACS reports, Kwacha =
USAID/Zambia Controller records

IV PROJECT DESCRIPTION

The project aims to improve agricultural marketing systems through technical assistance, training, commodities, and institutional strengthening of selected Zambian NGOs involved in providing marketing related services. The GRZ supported these efforts through local currency grants and/or loans for *inter alia* in-country training, technical experts, and institutional strengthening efforts. A Project Identification Sheet is provided as Table 5.

A Program Goal and Purpose

The Project goal is to increase Zambia's agricultural production, rural incomes, and nutritional status through improvements in the agricultural marketing system for both agricultural inputs and outputs.⁷ Objectively verifiable indicators for the project goal are increased allocation of farm resources to economically viable activities, increased marketed output, and reduction in

⁷ Project Paper Supplement, February 28, 1991, page 9

Table 5 PROJECT IDENTIFICATION SHEET

1	Country	Zambia	
2	Project/Program Title	Zambia Agribusiness and Management Support	
3	Project Number	611-0214	
4	Project Dates		
	a	Project Agreement	August 23, 1988
		Amendment 1	September 30, 1988
		Amendment 2	September 30, 1988
		Amendment 3	April 19, 1991
	b	Final Obligation Date	FY 1994
	c	Project Assistance Completion Date	September 30, 1995
5	Project Funding		
	a	DFA/DA	\$ 11,200,000
	b	DFA/DA (Local Currency)	\$ 900,000
	c	Host Government	\$ 4,630 000
		Total Funding	\$ 16,730,000
6	Local Currency Generations		
		Trust Fund	Special Account
	a	DFA/DA	Kw15,873,896 Kw155,954,293
		Total	Kw15 873,896 Kw155,954,293
7	Project/Program Designers	USAID/Zambia and the Government of the Republic of Zambia	
8	Responsible Officials		
	a	Mission Director	Fred Winch
	b	Project Officers	Val Mahan John Foster
9	Previous Evaluations		
	a	External Assessment	Mid-term Evaluation June 1992
	b	Audit(s)	None

importation of selected agricultural products Objectively verifiable indicators for the project

goal in the target areas are increased rural income and employment, greater availability and reduced cost of selected inputs and outputs, and positive change in nutritional status

The specific project purpose is to improve the operational efficiency of the agricultural marketing system for selected agricultural inputs and outputs and promote market development ⁸ Objectively verifiable indicators for the project purpose are increased volume of rural processing for maize and oil seed, reduction in transaction costs for processing and marketing, expansion of private sector activity in agricultural marketing, increased GRZ capacity to support private sector marketing, and an increase in national transport capacity to distribute agricultural inputs and outputs

B Expected Outputs

In order to accomplish the purpose of the project, the following outputs were delineated

- ▶ Increased processing and marketing of maize and edible oil in rural areas using appropriate small-scale technology
- ▶ Expanded intermediate and final agro-processing capacity in rural areas
- ▶ Improved availability of tires, tubes and spare parts for the transport system
- ▶ Improved human resources contributing to market system improvements
- ▶ Input supplies provided on time and in desired quantities for use by small-scale farmers
- ▶ Increased employment
- ▶ Improved ability of selected NGOs to provide services to small-scale entrepreneurs

C Expected End-of-Project Status

By the end of the project, it is expected that the following will be achieved ⁹

- ▶ increased volume of rural processing of maize and oil seed,
- ▶ reduction in transaction costs for processing and marketing,
- ▶ expansion of private sector activity in agricultural marketing,
- ▶ increased GRZ capacity to support private sector marketing, and
- ▶ increase in national transport capacity to carry agricultural inputs and outputs

An amount of \$1 million was retained in bank letters of commitment for import activities approved prior to the redesign of the project and, under the amended project, the procurement of other commodities directly related to the enhancement of the grain milling and oil extraction subsectors The four approved client projects were to be brought to completion by the ZAMS T A team

⁸ Project Paper Supplement, February 28, 1991 page 9

⁹ Third Amendment to Project Grant Agreement dated April 19 1991, Annex 1, page 2

V EVALUATION METHODOLOGY

The scope of work for this evaluation (see Annex A) required an assessment of the degree to which the project contributed to or influenced the end of project status and implicitly whether the project purpose was achieved as defined in the project documents. Official project files/records/reports in USAID/Zambia were reviewed as an important source of information, particularly regarding project inputs and outputs, host country contribution and agreements and decisions regarding project direction. In addition, relevant personnel from RONCO, NGOs, VIS, VITA, and SIDO were interviewed to assess the progress in meeting project objectives.

A survey of hammermills was conducted in three rural areas, Eastern, Southern and Luapula provinces, to determine sources of grain for milling, client profile, milling orientation - service or commercial, source and type of training and/or other assistance received, and availability and location of spare parts and service. Additionally, a survey of hammermill users (households) associated with the hammermill surveyed was conducted in the same provinces to determine the amount of service milling required, the amount of additional maize and/or maize meal purchased in addition to their own production, increases/decreases of maize meal consumed, and assessment of the appropriateness of hammermills, and the nutritional status of hammermill users.

Approximately 25 hammermills and 50 users (households) in each of the three provinces were included in the sample. The basic sample of hammermills in the provinces was drawn randomly from a list of hammermills obtained at the ZAMS project office.

The status of the establishment of the VIS training and repair centers was determined. These centers were an essential element of the VITA/VIS activities in an attempt to address the concerns of lack of spare parts and repair facilities brought out in the ZAMS baseline data study.

In addition, an assessment of the progress in establishing the six market centers, five rural and one peri-urban, was undertaken. This assessment determined the degree to which hammermills and/or oilseed presses are the core of the prospective market centers.

Although the Africare oilseed activities were not a focal point of the evaluation, spill-over effects from the oilseed activities regarding the establishment of market centers and/or hammermill activities including monitoring and evaluation and training are noted in the evaluation report.

VI EVALUATION FINDINGS AND CONCLUSIONS

The objective of the evaluation is to assess the Zambia Agribusiness and Management Support Project's (ZAMS) overall success, or failure in achieving the project goal, purpose and expected end-of-project status. The evaluation findings are divided into four sections: (1) an assessment of project outputs, (2) an assessment of project impact in achieving the goal and purpose, (3)

enhanced opportunities for small-scale food processing, and (4) USAID/Zambia's management and implementation of the ZAMS Project

A Assessment of Project Outputs

The assessment of project outputs focuses on the ZAMS' hammermill program and its linkages/relative importance to the GRZ's National Hammermill Program. In addition, an assessment is made of the prime contractors' impact on the hammermill program through training, monitoring and evaluation activities, technical assistance and agribusiness development

1 Increased processing and marketing of maize and edible oil in rural areas using appropriate small-scale technology

A survey of rural hammermillers conducted in May 1994 found that over half (54.7 percent) of the hammermill operations began between 1991 and 1994, Table 6.¹⁰ The rate of change of new entries of those sampled was 119 percent over this period. SIDO was the major source of hammermills, Table 7, followed by specialized hammermill dealers including SARO Engineering, VIS and ZCF. Other sources, e.g., inheritances, project supplies (NGOs), and used hammermills purchased from other millers, accounted for significant proportion of these hammermills.

Table 6 ENTRY OF HAMMERMILL OPERATIONS BY SELECTED YEARS

Year Started	Number of New Operations		Entries as a Percent of Sample	Rate of Change
	Entries	Total		
Before 1965	2	2	1.9	N/C
1966 - 1970	2	4	1.9	100
1971 - 1975	2	6	1.9	50
1976 - 1980	3	9	2.9	50
1981 - 1985	15	24	14.3	167
1986 - 1990	24	48	22.9	100
1991 - 1994	57	105	54.3	119

N/C = No Change

Source: May 1994 Hammermill Survey Data

Purchase of hammermills from other millers was particularly common in Luapula province. These used hammermills are usually relocated in areas where the potential for profitability is assumed to be greater. Many hammermills purchased in the Eastern and Southern provinces

¹⁰ F.K. Sipula, Hammermill Survey Report for Southern, Eastern and Luapula Provinces Preliminary Results, June 1994.

appear to have been sourced from engineering companies (manufacturers) and other companies in general retailing. This may be an indication that hammermills have been present in the province for some time.

Table 7 SOURCES OF FIRST HAMMERMILLS PURCHASED

Organization	Eastern		Luapula		Southern		Total *	
	No	%	No	%	No	%	No	%
VIS	2	6.3	3	8.8	2	5.1	7	6.7
SIDO	5	15.5	18	52.9	8	20.5	31	29.5
ZCF	2	6.3	1	2.9	2	5.1	5	4.8
Hammermill Dealer	11	34.4	3	8.8	11	28.2	25	23.8
Others	12	37.5	9	26.5	16	41.1	37	35.2
Total	32	100.0	34	100.0	39	100.0	105	100.0

* Total Percentages

Source: May 1994 Hammermill Survey Data

Hammermill operations in Luapula province, on the other hand, have primarily originated through the NGO programs operating in the province. However, SIDO supplied over half (52.9 percent) of all the surveyed hammermills. VIS and ZCF supplied and distributed about 11.7 percent of the mills in the survey sample.

Promoting the purchase of hammermills on credit may have played a major role over economic and financial needs in purchasing a hammermill in Luapula province. It was not clear from the survey data whether the presence of hammermills in Luapula province lowered the cost of maize meal to the consumer. If a significant portion of the maize meal is coming from outside the province, then transporting maize meal may be cheaper than the costs of transporting the maize grain to and milling within the province. Information was not available on maize grain or meal imports to the province.

Conclusions During the period between 1991 and 1994, there has been a sharp increase in the number of new hammermilling enterprises established throughout Zambia. Thus, one can conclude that in the rural areas the processing and marketing of maize increased over the project implementation period.

Since an assessment of the expansion of oilseed processing was not included in this evaluation, no conclusions regarding oilseed processing are drawn at this time.

2 Expanded intermediate and final agro-processing capacity in rural areas

Conclusions Available data indicates that both the number and quantity of output from hammermills in the rural areas increased over the 1991 to 1994 period. It isn't possible to determine how much of this expansion is attributable to ZAMS alone, since numerous organizations were involved with the distribution of hammermills under the GRZ's National Hammermill Program. However, there is no doubt that the project played a very supportive role in the overall expansion of agro-processing in rural Zambia.

3 Improved availability of tires, tubes and spare parts for the transport system

In February 1992, USAID/Zambia commissioned a study to evaluate the performance of the ZAMS Transport procurement Activity in order to determine its impact on the intended target groups.¹¹ This study was undertaken, under the supervision of the ZAMS prime contractor RONCO, by two local consultants knowledgeable of the Zambian agricultural marketing and in particular the agricultural transport sector. The study was to be completed by April 1992, however, the interviews with the recipient companies were not completed until January 1993.

Primary findings from this evaluation report were

- ▶ Some tires, tubes and spares were sold to non-agricultural companies
- ▶ The activity helped many prominent agricultural companies and individual farmers
- ▶ Record keeping of purchases and sales of the commodities was on the average, poor. Two companies could not find their records of the transactions
- ▶ Of the \$1.8 million disbursed, 48 percent was spent on tires, tubes and flaps, 46 percent was spent on engine spares, and 6 percent was used to buy 12 Cummins truck engines
- ▶ The evaluation could not determine the number of vehicles which were brought into operation through the different engine spares purchased
- ▶ Besides the eleven importing companies, the evaluation team was able to identify 160 secondary companies that benefited from this activity

Conclusions The Temba/Malwa evaluation does not capture the essences of the CIP activity nor are the conclusions drawn based on the data provided. The authors of the study allude to the fact that the CIP "had a positive impact on the transport sector" while in a later paragraph

¹¹ Joseph Temba and Victor Thatcher Malwa, ZAMS Transport Commodity Procurement Activity - An Evaluation, The Zambia Agribusiness Management Support Project, March 1993

stating that the target population "agricultural transportation" was not necessarily reached, i.e., "it was not easy for importers to resist selling spares to anyone who could afford to pay" ¹² In addition, the authors were not able to make a definitive determination of the number of vehicles brought back into service with the spares which had the intended purpose of increasing the quantity of commodities, including agricultural commodities, transported. Thus, it seems impetuous to state that the indicators for this activity were met, i.e., approximately 500 vehicles are returned to service as a result of spare part availability and approximately six million ton miles of truck transport are facilitated.

It is evident from the responses of the importers in the Temba/Malwa study that USAID/Zambia did not conduct any end-use checks at the time of commodity arrival nor was there evidence of Mission oversight other than that of assuring that the financial documents were in order. A Project Evaluation Summary (PES) wasn't found in the project files for the Temba/Malwa study, so one can assume that this evaluation does not meet the requirements of the project documentation.

4 Improved human resources contributing to market system improvements

The training component in the ZAMS project has met or exceeded the anticipated estimates included in the indicators for this output. Both the training carried out exclusively by the ZAMS/RONCO team and that of the co-implementing agencies, some with ZAMS/RONCO assistance, should be applauded.

Six participants, four female, were funded for long-term training. Five have completed their training - one in business management, one in food processing, two in agricultural economics/development and one in horticulture. One participant's training was terminated. Although the project's verifiable indicator for long-term training has been reached, the potential for additional training in agribusiness management, marketing and economics is great.

The short-term training was designed to enhance small-scale business management, industry development and technical support activities. Participants who received this training now serve as a basis for ensuring that the small-scale business development efforts in Zambia have a greater probability of attaining sustainability. Since the beginning of ZAMS, 107 persons have received short-term technical training - 11 in the United States, 20 in third countries, and 76 in local Zambian institutions, Table 8 and Annex E.

¹² Annex 1 to the Project Grant Agreement between the Government of the Republic of Zambia and the United States of America for the Zambia Agribusiness and Management Project (No. 611-0214) dated August 23, 1988, refers to 'tires, tubes, and truck spares' (page 2), 'tires, tubes and spare parts for trucks' (page 5), and 'transport sector procurement activity' (page 9). Nowhere is there a specific reference to the fact that the commodities procured under this program are only for agricultural transportation.

Table 8 SHORT-TERM TRAINING PARTICIPANTS

Subject Area	Location of Training			Total
	United States	Third Country	Zambia	
Agribusiness Management	3	2	57	62
Food Processing	3	1		4
Rural Development		2		2
Small-Scale Industries		5		5
Business *	1	5		6
Technical **	4		19	23
Human Resource Development		4		4
Other ***		1		1
Total	11	20	76	107

Source USAID/Zambia PTMS records

* Includes accounting and computer training

** Includes agronomy, general agriculture and agricultural mechanics

*** Observation tour

In addition to the short-term and academic training, more than 50 workshops/seminars/courses, Table 9, were held under the auspices of ZAMS, either by the prime contractor or co-complementing agencies, where more than 785 persons participated. Two training-of-trainers workshops were held for VIS and SIDO personnel before VIS and SIDO started training of hammermill owners/operators in operation and maintenance of the hammermills and small business practices. In addition, ZAMS introduced a training program for hammermill and ram-press mechanics, including ZCF mechanics, private mechanics, and MAFF agricultural engineers, to use as a basis for establishing district networks of repair facilities, including the stocking/distribution of spare parts, for use by hammermill and ram-press owners and operators. Through the various training efforts, ZAMS has developed a broad series of training manuals printed in cartoon form, in the local languages, and have been distributed to the population of hammermillers.

The results from the May 1994 hammermill survey indicate approximately 86.4 percent of the hammermill owners/operators in the sample had not received any training directly from those organizations involved in promoting hammermill enterprises.¹³ Owners who hadn't received training showed considerable enthusiasm for obtaining training in business related courses. However, most of those surveyed indicated that they had received the ZAMS newsletters and illustrated booklets which were used by the project to augment the direct training of hammermill owners and operators.

¹³ Suggested sponsors of hammermill related training programs included in the questionnaire were SIDO, VIS, ZCF, MAFF, and ZAMS.

Table 9 SUMMARY OF ZAMS IN-COUNTRY TRAINING ACTIVITIES

Implementing Agency	Number of Activities	Years	Number of Participants
ZAMS/RONCO	17	1989-93	331
VIS/VITA	12	1991-92	174
SIDO	19	1992-93	280
Total	48		785

Sources USAID/Zambia training reports, ZAMS reports, and SIDO reports

Of those who received training, 45.2 percent indicated that SIDO had sponsored their training, Table 10. The survey results also showed that hammermill dealers are actively involved in training hammermill owners/operators. A surprising result was the number that indicated that ZAMS had sponsored the training received. In reality ZAMS has supported most of the training activities through the project's co-implementing agencies, including Africare as well as manufacturers and distributors of hammermills, through the training of trainers, development of course curricula, and providing technical assistance (training staff) for the actual training programs. The number of courses/seminars actually carried-out by ZAMS has been small in comparison to co-implementing agencies.

Table 10 ORGANIZATIONS SPONSORING TRAINING PARTICIPATED IN BY HAMMERMILL OWNERS/OPERATORS

Organization	Percentage
SIDO	45.2
VIS	13.3
ZCF	0.0
Ministry of Agriculture	0.0
ZAMS	22.6
Private (Dealers)	32.6

Note: Some respondents participated in more than one training course sponsored by the same or another organization. Thus, the percentages do not add to 100 percent.

Source: May 1994 Hammermill Survey Data.

Conclusions. It may be too soon to measure the real impact of the ZAMS training efforts on the small-scale milling and oilseed processing industries. The recent survey indicated that ZAMS has played an important part in filling the training gap in the National Hammermill Program. Rapid expansion in the hammermill industry, especially in the rural areas of Zambia, surpassed the capacity of most of the supporting agencies of the hammermill program to provide, at a minimum, basic training on the operation and maintenance of mills. In many cases, these

organizations' intentions were to train the operator/owner before they received the mill. However, the rate of distribution far exceeded the capacity to do such training.

Training requirements also expanded over the project's implementation period. Initially the focus was on providing basic training, which in theory should have been provided by the dealers (manufacturers of the hammermills), in the operation, maintenance, and repair of hammermills. This progressed into areas of training which support building a sustainable hammermilling industry such as business skills/concepts and training of mechanics to service the hammermills. The ZAMS activity has been highly successful in meeting these demands when considering that the project was initially designed to support only the distribution of 700 hammermills whereas the training program alone has attempted to support more than 2,000 hammermills distributed over the project period.

Although the demand for degree training is great, ZAMS refocusing the training program toward in-country training was warranted. This enabled the project to address a much larger number of participants and at the same time benefitting from the skills obtained by those who participated in degree and third-country training programs.

5 Input supplies provided on time and in desired quantities for use by small-scale farmers

Two approaches have been attempted through ZAMS to address the input supply problem faced by small-scale farmers. The initial approach was to address the issues of timeliness and quantity as a function of lack of transport and/or of functional transport. Thus, the project supported the import of tires, tubes, and spare parts for the private transport industry in belief that the key to solving the small-scale farmer input problem was in getting the inputs transported in the desired quantities at the right time and location. While the assumptions were correct, i.e., transport is a major constraint in the delivery of inputs, the solution did not address the basic infrastructure constraint of poor roads.

Thus, although the import of tires, tubes and spare parts were able to operationalize some 300 trucks of varying size, the small-scale farmer input problem persisted because most of the operationalized truck fleet operated on the "better" roads in Zambia which for the most part do not service the small-scale farmer.

ZAMS second approach in addressing the small-scale farmer input problem has been through their efforts (pilot and otherwise) in developing "market centers." This concept has evolved over time from being one of a basic bottom-up approach, i.e., a small grouping of entrepreneurs surrounding a hammermill and/or oilseed press providing the necessary marketing services, buying commodities/selling inputs, to the small-scale farmer, to a more top-down approach, i.e., an established/seasoned/financially viable marketing concern reaching down to the small-scale farmer through being able to buy commodities in the rural areas either directly and/or by establishing collection centers and then transporting and marketing these commodities to the point of second sale whether for processing or consumption. Outgrower arrangements have

become an essential part of these activities. The five activities being pursued by ZAMS are briefly described in Annex F.

Conclusions Although the efforts by ZAMS in addressing the small-scale farmer input problem, i.e., obtaining inputs on time and in the desired quantities, have provided some positive results, it may be impracticable to replicate these activities on a large enough scale to gain the desired impact at the small-scale farmer level. The market system in Zambia is very "young" in that market liberalization only began to take effect in the last two years or so. Private sector's involvement so far has been limited due to adverse financial (Treasury Bills) and economic conditions.

The ZAMS activities have provided some useful insights into the marketing system faced by the small-scale farmer. However, other than establishing some contacts for export markets for the commodities being produced by the small-scale farmers, little has resulted in developing a sustainable approach for providing inputs to small-scale farmer in a timely manner and in the quantities desired.

6 Increased employment

Assuming that at a minimum one new job is created for each new hammermill and/or oilseed press installed and the rate new hammermills were being distributed during the 1991 - 1992 period, Table 3, the potential for the creation of more than 2,500 jobs resulted through the National Hammermill Program, over the 1991 - 1994 period. Attributing these newly created jobs as being the result of one project or another is not necessary. The fact is that a natural fallout/spillover from the National Hammermill Program resulted in increased rural employment associated with the installation of hammermills. Not only was there an increase in rural employment directly associated with the operation and management of hammermills, but also in the service industries, i.e., repair facilities and manufacturers of hammermills and spare parts.

Conclusions The verifiable indicator for this project output, i.e., the creation of 1,500 additional jobs, in all likelihood has been met and exceeded substantially. ZAMS involvement in the creation of these new jobs was an important aspect of the success of the National Hammermill Program. However, ZAMS should not take full credit for this achievement, since other actors also influenced changes in rural employment.

7 Improved ability of selected NGOs to provide services to small-scale entrepreneurs

Volunteers in Technical Assistance USAID/Zambia assistance to Volunteers in Technical Assistance (VITA) began in August 1989 for the purpose of improving its ability to work with small scale agro-businesses and to carry out village-based activities of the Zambia Agribusiness and Management Support Project. VITA volunteers were to provide specific services in areas where Zambian expertise was not available.

Further assistance was provided to VITA in March 1991 to provide technical support and related project equipment to Village Industry Service (VIS) to implement a hammermill distribution and promotion program under the ZAMS project. VITA provided a technical field advisor for the VIS hammermill program. VIS' primary responsibility in the hammermill program was the establishment of at least 220 hammermills in the rural areas of Zambia and the supporting infrastructure and training required to insure their successful operation. The VITA technical advisor provided on-going support and coordinated with the VIS Hammermill Coordinator.

Principal objectives of the support to VITA were to develop a program and schedule for the monitoring and maintenance of hammermill installations in collaboration with the ZAMS Technical Assistance Team, to help VIS in the establishment and equipping of at least three training and repair centers for hammermills and oil presses, to help VIS in setting up operational procedures for each of the repair centers, to work with VIS to establish training center capabilities, to collaborate with VIS, the ZAMS Technical Assistance Team and Africare in planning and organizing training for operators in the use, maintenance and repair of hammermills and oilseed presses, together with the manufacturer and the ZAMS engineer organize a system to ensure the availability of spare parts for the hammermills, to help in the identification and diversification of milling related activities for small scale entrepreneurs, in collaboration with the ZAMS Technical Assistance Team, develop and implement a program to monitor the impact of hammermill operation, and with the VITA Program Manager, help VIS in strengthening its provincial offices to improve their capacity to support the hammermill program.

Additional funding was provided to VITA to support a program of technical assistance to VIS to help in improving its ability to work with small-scale agro-business and to carry out village-based activities of the ZAMS project. The purpose of this grant was to improve the capacity of VIS to implement village-based small enterprise programs through the continued development of effective and efficient managerial, administrative, and financial systems of operations within VIS. VITA provided the services of a full-time Program Manager with strong organizational, management, and training skills, and experience in small enterprise development programming.

Principal objectives of this support were to develop a sound, forward-looking strategy for the use of present development funds and the generation of income in the future, to develop an aggressive marketing program for VIS and its services, to increase the quality, diversity, and quantity of consultancy services rendered by VIS, to establish a mechanism for levying and tracking fees on VIS services to individual clients, and to increase the capacity of VIS to cover many of the costs now being funded under its local currency agreement with USAID.

Village Industry Service. Counterpart funds were provided to Village Industry Service (VIS) for the purpose of supporting the logistical and training elements of the GRZ/VIS National Hammermill Program. Under this activity, VIS was to distribute 220 hammermills to rural and peri-urban inhabitants. The ZAMS project supported this effort by providing a staff member to serve as the VIS hammermill coordinator, technical assistance through VITA for a Field

Advisor to the program, local currency costs for additional VIS staff, client oriented training programs, monitoring and evaluation of client operations, provision of rural based maintenance services, and assistance in the distribution of spare parts. The ZAMS Technical Assistance Team was to help VIS and VITA in the development of curricula, training materials, and the training of trainers for the VIS hammermill training program.

Major activities undertaken with the funding to VIS included recruitment of ten new staff members (three workshop managers/technicians, three mechanics, one bookkeeper, three drivers), recruitment of three additional mechanics who received specialized hands-on training in the repair and maintenance of hammermill units from Saro-Agri, training approximately 220 VIS clients, plus SIDO and private clients, in the operation of hammermills and business training designed to encourage a viable village-based small scale milling industry, monitoring the installation, training and maintenance of hammermills and operators, establishment of centralized workshops for maintenance and repair of hammermills in Eastern, Southern, and Luapula Provinces in which services would be sold to clients on a full cost basis, and the distribution of a sufficient quantity of spare parts to insure that the lack of spare parts does not negatively affect operation of hammermills among the targeted population.

Small Industries Development Organization USAID counterpart funding to SIDO was to be used for client and staff training, monitoring and evaluation, and institutional strengthening. The broad objectives of the training program were to train hammermill owners and operators in efficient milling and preventive maintenance of the hammermills, to train hammermill owners in better small business management practices, to introduce an efficient monitoring and evaluation system, and to introduce an efficient hammermill repair and servicing system. In order to reduce the cost of resource persons in the training programs, SIDO staff located at the provincial level were provided the opportunity to improve their training skills through a Training-of-Trainers program.

Although the training program took considerable time to implement, partially because the cost of conducting an individual course sky-rocketed over the project period, it proved very helpful to SIDO and the clients. SIDO considers the training program vital to the success of the National Hammermill Program and recommends that it be continued in order to allow all hammermill owners and operators to be trained.

Conclusions The SIDO training program has been very successful in that those trained are already practicing the skills acquired. In addition, clients that have received training through the SIDO training program are now experiencing a lower rate of breakdowns, a higher rate of repayment of loans on hammermills, and an improved management capability that has allowed them to purchase and operate additional hammermills at a profit. Although SIDO did not attain the target number of clients to be trained, i.e., 1,200 participants throughout 48 districts, 32 courses were held at different venues resulting in 469 clients being trained.

A team building exercise for ZAMS co-implementors in 1992 determined that VIS and SIDO were unable to define their roles in the National Hammermill Program in such a way that a clear

relationship was apparent. Thus, it is not apparent that there was much of a collaborative approach among the co-implementors for carrying-out the ZAMS mandate.

Nevertheless, VIS and SIDO distribution of hammermills during the 1991 through 1992 period exceeded the targets set out in the project. In fact, VIS continues to be actively involved with the distribution of hammermills even though the majority of the activity is in repossessing, due to non-payment of loans, hammermills originally distributed under the NHP and then finding new clients for the repossessed hammermills.

Assistance to VIS was terminated in November 1992 and VITA in July 1993 as a result of the financial irregularities encountered by VIS in accounting for the counterpart funds received. The irregularities were brought to USAID/Zambia's attention in an audit of VIS by Deloitte-Touche accountants in September 1992. The termination of the VIS activity eliminated the need for further VITA support.

VITA was able to accomplish many of the objectives set-out for the support of VIS programs. However, although many of the systems were developed, i.e., strategic planning, monitoring, and administrative procedures, implementation of these systems, other than an initial attempt by VIS, were not sustained in the long-term. VIS did, however, introduce fees for a number of services they provided, i.e., business registration, development of business plans, credit provisions, and training services, but no analysis was carried-out to determine if the fees were adequate to cover VIS' costs.

The failure of VIS should not reflect poorly on VITA's efforts. VITA's role was a supportive one which in some ways was stretched to the limit due to the incompetent "political" management of VIS. VITA accomplishments, although numerous, are not fully accounted for in the ZAMS Project outputs.

8 Conclusions of the Assessment of Project Outputs

The National Hammermill Program was well underway by the time the ZAMS project was refocused toward the support of small-scale agro-processing enterprises. Although considerable emphasis in ZAMS implementation was placed on the distribution aspects of the hammermill program and the oilseed press activities, the one niche where ZAMS has had a tremendous impact is in training. Initially, it was basic training in operations and maintenance of hammermills and oilseed presses and then progressed into training programs that supported the development of viable and sustainable small-scale agro-processing enterprises. These "healthy" small-scale agro-processing enterprises are found both in the peri-urban and rural areas. In all aspects of training, the ZAMS - SIDO collaborative efforts have obtained the desired results.

However, not all the project outputs have been attained at the level of impact desired. The CIP support to the transport sector was only mildly successful because of the rapid changes in the economic environment that were occurring when the commodities arrived in country. In addition, the amount of funding allocated to this activity hardly provided a "band-aid" when

assessing the requirements for tires, tubes and spare parts to sustain/maintain a capacity to transport increased quantities of commodities and more specifically agricultural commodities. USAID/Zambia's monitoring and evaluation of this activity was extremely lax.

Several pilot activities have been initiated to help address the input needs of small-scale farmers. While most of these activities have been successful in the short-term, none seem to have the essential/pivotal elements to allow for sustainable replication. It is worth noting that the results obtained from outgrower schemes in Zambia follow closely the results where outgrower schemes have been tried in other African countries.

The expansion of small-scale agro-processing in the rural and peri-urban areas in Zambia has been much greater than the project designers envisioned. However, not all the expansion is attributable to ZAMS efforts although the ZAMS support function is having a large impact on sustaining the expansion. There were a number of actors involved with the distribution of hammermills. Politicians as much as anyone have helped with the "number" distributed, but not necessarily in developing a sound economic distribution system for hammermills. Giving a friend or an institution a hammermill when the friend or the institution doesn't have the ability and/or resources to operate the hammermill has not been healthy for the milling sector. ZAMS has tried to fill the shortfall in this process, but the politicians are still giving out hammermills.

Lastly, USAID/Zambia lost sight of the fact that a major part of the main thrust of the ZAMS project was to strengthen the indigenous NGO/PVO capacity in Zambia to enable these entities to support the long-term development of small-scale agro-processing enterprises. When VIS encountered financial difficulties, the Mission and ZAMS/RONCO turned a blind side and took little further effort in finding and/or creating a replacement (There is a precedent, i.e., USAID/Zambia helped create PAM when they need an institution to coordinate the drought activities). Thus, when the ZAMS hammermill activity comes to a close, and it must, no indigenous NGO/PVO will remain in place to help sustain the people level impact.

B Assessment of Project Impact in Achieving the Goal and Purpose

The objective of the evaluation is to assess the overall success or failure of the project to achieve the project goal and purpose. The assessment of the project impact in achieving the goal and purpose focuses on assessing project impact in three broad areas:

1 Nutritional improvements in areas where food processing activities are supported

Of the sampled hammermill operators, 40.9 percent believed there was more maize meal available for breakfast after they acquired their hammermills¹⁴. However, 59.1 percent of the respondents had not noticed and/or changed their eating habits at the breakfast meal. Regarding the lunch meal, 47.7 percent of the respondents believe they increased their intake of maize meal after the acquisition of the hammermill. For the supper meal, 48.3 percent of the respondents believe that there was more maize meal available and increased consumption after the acquisition of the hammermills.

The results from the household survey indicated that hammermills have improved the nutritional status of most households in the study area¹⁵. Most families surveyed now consume maize meal three times a day, and also consume increased amounts of maize meal. Of those households surveyed, 56 percent said that the amount of maize meal taken at breakfast has remained the same since the establishment of hammermills while 38 percent of the households said the intake of maize meal at breakfast had increased, and only 6 percent reported a decrease, Table 11. However, 45 percent of the households indicated that the intake of maize meal at lunch had increased since the establishment of hammermills in their areas. Similarly, 47 percent of the households reported increased intake of maize meal at supper time.

In addition to growing maize, many households in the survey areas are growing other crops. These include, sorghum, millet, cassava, sweet potatoes, sunflower, dried beans and groundnuts, Table 12. The survey results indicated that (1) over a third of the households in each province grow maize, (2) sweet potatoes are an important food crop in all three provinces, (3) cassava is important in Luapula province, and (4) other crops play an important role in the households' production activities in both the Eastern and Southern provinces. However, none of the households surveyed grew soybeans or wheat.

Improvement in food security came not only from more and better maize meal but also from the production of other crops as well. Important substitutable food items were ranked as follows (according to their importance): cassava was reported as the next most important food, especially in Luapula province, followed by sweet potatoes, bread, sorghum, rice, millet and Irish potatoes, Table 13. It was surprising that bread ranked as high in the rural setting, however, it was not surprising that rice fared so poorly since it is a substitute (competing) crop to maize in the three provinces. Since hammermill operators own and/or have access to maize meal, they see little need to substitute maize with rice.

¹⁴ F. K. Sipula, Hammermill Survey Report for Southern, Eastern, and Luapula Provinces - Preliminary Results, June 1994.

¹⁵ Pumulo Muyatwa-Sipula, Hammermill Utilization Survey Report for Southern, Eastern, and Luapula Provinces - Survey Results, November 1994.

Table 11 CHANGES IN THE QUANTITY OF MAIZE MEAL CONSUMED

Meal/Change	Province						Sample	
	Southern		Eastern		Luapula			
	No	%	No	%	No	%	No	%
Breakfast								
Increase	18	33 3	21	38 2	21	43 8	60	38 2
Decrease	6	11 1	3	5 5	-	-	9	5 7
Same	30	56 6	31	56 4	27	56 3	88	56 1
Lunch								
Increase	26	48 2	22	40 0	23	47 9	71	45 2
Decrease	9	16 7	3	5 5	5	10 4	17	10 8
Same	19	35 2	30	54 5	20	41 7	69	43 9
Supper								
Increase	29	53 7	21	38 2	23	47 9	73	46 5
Decrease	7	12 9	3	5 5	5	10 4	15	9 6
Same	18	33 3	31	56 4	20	41 7	69	43 9

Source Hammermill Utilization Survey

Table 12 HOUSEHOLDS GROWING OTHER CROPS

Other Crops	Province						Sample	
	Southern		Eastern		Luapula			
	No	%	No	%	No	%	No	%
Maize	17	38 6	26	38 2	33	33 3	76	36 0
Sorghum	3	6 8	1	1 5	1	1 0	5	2 4
Millet	1	2 3	2	2 9	1	1 0	4	1 9
Cassava	-	-	2	2 9	26	26 3	28	13 3
Irish Potatoes	-	-	1	1 5	-	-	1	0 5
Sweet Potatoes	5	11 4	8	11 8	17	17 2	30	14 2
Sunflowers	7	15 9	1	1 5	-	-	8	3 8
Beans (Dried)	3	6 8	2	2 9	2	2 0	7	3 3
Other	8	18 2	25	36 8	19	19 2	52	24 6
Total	44	100 0	68	100 0	99	100 0	211	100 0

Source Hammermill Utilization Survey

Table 13 SUBSTITUTES FOR MAIZE MEAL

Province and Commodity	Frequency				
	Rank 5	Rank 4	Rank 3	Rank 2	Rank 1
Eastern Province					
Rice	4	4	6	3	2
Bread	5	5	4	2	1
Irish Potatoes	N/R	1	9	1	3
Sweet Potatoes	6	6	8	2	2
Cassava	2	7	2	2	2
Sorghum	N/R	N/R	1	N/R	N/R
Millet	N/R	N/R	2	N/R	3
Luapula Province					
Rice	3	6	7	6	3
Bread	2	13	3	3	N/R
Irish Potatoes	N/R	N/R	6	1	2
Sweet Potatoes	1	14	7	4	N/R
Cassava	21	2	N/R	3	N/R
Sorghum	N/R	N/R	N/R	N/R	1
Millet	N/R	1	3	2	4
Southern Province					
Rice	5	5	2	6	5
Bread	7	4	11	4	1
Irish Potatoes	N/R	4	5	6	1
Sweet Potatoes	6	10	9	3	2
Cassava	N/R	2	2	1	1
Sorghum	3	1	2	1	2
Millet	N/R	2	1	1	N/R
Total Respondents					
Rice	12	15	15	15	10
Bread	14	22	18	9	2
Irish Potatoes	N/R	5	20	8	6
Sweet Potatoes	13	30	24	9	4
Cassava	23	11	4	4	3
Sorghum	3	1	3	1	3
Millet	N/R	3	6	3	7

N/R = No responses

Rank 5 to Rank 1 is measure used to rank preferences with Rank 5 being high

Source May 1994 Hammermill Survey Data

Conclusions The objectives of the hammermill surveys were to find out, among other things, whether the introduction of hammermills in the rural areas of Eastern, Southern and Luapula provinces had benefitted rural households. The survey results indicated that in general the standard of living of most rural households in these three study areas had improved vis-a-vis

consumption patterns and amounts of maize meal consumed Measured in terms of nutritional benefits, the impact of hammermills in the rural areas has been significant in improving the well-being of the population

2 The economic benefits of increased rural processing from the viewpoint of the consumer

The introduction of hammermills in rural areas has also affected the economic life of rural households Households were asked in the hammermill utilization survey to indicate in what way they thought hammermills had been beneficial to their communities Of those households responding, 56 percent believed that the cost of living for the majority of the people in their communities had improved since hammermills started operating in their areas, while 19 percent believed women no longer have to spend long and arduous hours pounding maize, Table 14 The time women spend to have their maize grain milled using local mills is less compared to the time spent on pounding maize This means that with their workload reduced, women now have more time to do other activities and maybe, even devote more of their time doing other income generating activities and therefore, generate more money to buy other foodstuffs for their families, thus improving their diets

Transportation problems, i e , poor infrastructure, lack of vehicles, as well as the distance to the nearest shops where the households would have to travel to obtain maize meal, have been reduced as reported by 10 percent of the households interviewed Households also reported that they no longer experience shortages of maize meal as was the case before the hammermills were established This means that as a result of the introduction of hammermills, in conjunction with market liberalization, supplies of less expensive maize meal have increased for consumption by the rural communities

The fact that women and children spend two to three hours waiting at a mill implies they are able to share ideas among the localized rural community Kaplan and Temba found that the time that women spent in groups as they wait for their maize to be milled is an opportunity for talking and sharing ideas ¹⁶ The additional spare time is also used by women to grow more maize

Conclusions The costs spent on obtaining maize meal have been reduced with the establishment of hammermills in rural areas of the sample provinces In the past farm households normally sold most of their grain to official marketing agencies, i e , the National Marketing Board (NAMBoard) and the cooperatives, leaving only small amounts in their storage facilities which normally ran out before the next harvest As a result most households had to buy maize meal that was often unavailable in the rural shops and, if found, was normally expensive The surveys have shown that with the introduction of hammermills there has been a reduction in the expenditures on maize meal by rural households, Table 15 A pre-processed 25 kilogram bag of maize meal would normally cost a household in Southern province Kw5,007, whereas an

¹⁶ Paul Kaplan and Joseph Temba, Baseline of Hammermilling in Zambia, December 1992

equivalent bag of hammermilled maize meal would cost Kw2,668. The same price differentials were reported in the other two provinces. Thus, one can conclude that it is cheaper to mill grain using a local hammermill than to buy a pre-packaged bag of maize meal from shops, Table 16. This being the case, it is important that maize grain be made available, especially in deficit areas, such as Luapula through investment in infrastructure and in research and development.

Table 14 BENEFITS OF HAMMERMILLS TO SOCIETY

Reasons	Province						Sample	
	Southern		Eastern		Luapula			
	No	%	No	%	No	%	No	%
Beneficial	51	100 0	48	100 0	45	100 0	144	100 0
Cost of Living Improved	33	60 0	22	45 8	25	55 6	80	55 7
Beneficial Although Fewer Mills			2	4 2	6	13 3	8	5 6
Made Work Easier					1	2 2	1	0 7
Able to Grow More Maize					1	2 2	1	0 7
No More Shortages of Meal	3	5 9	3	6 3	2	4 4	8	5 6
No Pounding for Women	11	21 6	7	14 6	10	22 2	28	19 4
Reduced Distance & Better Quality	1	2 0	3	6 3			4	2 8
Reduced Distance & No Transport Problems	3	5 9	11	22 9			14	9 7
Not Beneficial	3	100 0	6	100 0	2	100 0	11	100 0
Mealie Meal Available in Shops	1	33 3	-	-			1	9 1
Hammermilling too Expensive	1	33 3	4	66 7	1	50 0	6	54 6
Too Few Hammermills in Area	1	33 3	2	33 3	1	50 0	4	36 4
No Response			1		1		2	1 3
Total	54	100 0	55	100 0	48	100 0	157	100 0

Source: Hammermill Utilization Survey

The analysis of the survey data bore out the important fact that with the establishment of local hammermills in the three provinces, there has been a general improvement in the economic and social well-being of most rural households, vis-a-vis, time conservation by women, lower costs of maize meal, and reduced distance to milling centers to obtain maize meal.

Table 15 WHY HOUSEHOLDS STARTED GOING TO HAMMERMILLS

Reasons	Province						Sample	
	Southern		Eastern		Luapula			
	No	%	No	%	No	%	No	%
Cheaper	1	1 9	9	16 4	3	6 3	13	8 3
Distance	1	1 9	-	-	1	2 1	2	1 3
Availability of Own Maize	3	5 6	1	1 8	2	4 2	6	3 8
Cheaper & Good Quality	1	1 9	4	7 3	-	-	5	3 2
Cheaper & Distance	33	61 1	26	47 3	27	56 3	86	54 8
No Mealie Meal in Shops	5	9 3	-	-	4	8 3	8	5 1
Easier than Pounding	6	11 1	10	18 2	11	22 9	27	17 2
Cheaper & Bi-Products Useful	2	3 7	-	-	-	-	2	1 3
Own Maize & No Mealie Meal	-	-	3	5 5	-	-	3	1 9
Missing Data	1	1 9	2	3 6	-	-	3	1 9
N/A	1	1 9	-	-	-	-	1	0 6
Total	54	100 0	55	100 0	48	100 0	157	100 0

Source Hammermill Utilization Survey

3 The economic viability of small-scale rural processing enterprises

A recent ZAMS study concluded that the sustainability of the hammermill industry as a commercial alternative to large-scale mills is limited, at least in the urban areas ¹⁷ Only large electrically powered hammermill incurs processing costs at or near the processing cost of large-scale mills operating at capacity It is more likely that small roller mill systems would be economically viable due to the quality of meal obtained when compared to hammermilled meal

The costs incurred by large-scale mills in transporting maize meal to the rural areas could even make diesel powered hammermills competitive when offering either commercial or service milling In areas where electric power is available, small-scale roller mill system's offer significant competition when the conditions are right, i e , adequate supplies of grain coupled with sufficient demand for the milled products

John G Litschauer, An Assessment of the Sustainability/People Level Impact of the National Hammermill Program (NHP) in Zambia, April 1994

Table 16 WHY HOUSEHOLDS SWITCHED FROM PURCHASING MAIZE MEAL

Reasons	Province						Sample	
	Southern		Eastern		Luapula			
	No	%	No	%	No	%	No	%
Commercial Meal Expensive	26	78.8	22	62.9	26	70.3	74	70.5
Transport Costly & Own Maize	-	-	-	-	1	2.7	1	1.0
Availability of Own Maize	-	-	9	25.7	7	18.9	16	15.2
Shortage of Meal in Shops	-	-	4	11.4	1	2.7	5	4.8
Hammermilled Cheaper & Tastes Better	3	9.1	-	-	-	-	3	2.9
Hammermilled Not Different From Commercial Meal	4	12.1	-	-	2	5.4	6	5.7
N/A	19		20		10		49	
Missing Data	2				1		3	
Total	54		55		48		157	

Source Hammermill Utilization Survey

In the May 1994 survey of rural hammermillers, the majority of the respondents, 82.3 percent, perceive their hammermill enterprises as profitable.¹⁸ Eighty-seven percent of the sampled hammermillers stated that their specific hammermill operations were indeed profitable. Monthly profits reported, Table 17, indicated that in the peak milling period Luapula province had the highest average at about Kw134,862, and the Southern and Eastern provinces had approximately the same average at Kw101,045 and Kw101,087, respectively. During non-peak periods, estimates of average monthly hammermill profit for Eastern and Luapula provinces were essentially half the average profit obtained in the peak periods.

Many of the respondents, 59.4 percent, would like to expand into other business activities, primarily farming, Table 18. Opening shops also ranked high for new expansion of business activities. The hammermillers suggested that the hammermilling enterprise was actually financing the farming operations in addition to other enterprises.

Conclusions For the majority of the rural hammermill owners, service hammermilling is a profitable enterprise. Competition from the entry of new hammermills may decrease profitability to a level to where marginally operated hammermills will in all likelihood go out of business. However, the lower operating costs of an electrically powered hammermill are outweighed by the high demand for milling services in the rural areas where the majority of the hammermills are diesel powered.

¹⁸ F. K. Sipula, Hammermill Survey Report for Southern, Eastern, and Luapula Provinces - Preliminary Results, June 1994.

Table 17 SURVEY RESPONDENTS MONTHLY HAMMERMILL PROFIT

Province	Hammermill Profitability	
	Peak Period	Non-Peak Period
Eastern	101,087	54,954
Luapula	134,862	65,759
Southern	101,045	N/R

N/R = None reported

Source May 1994 Hammermill Survey Data

Table 18 EXPANSION OF BUSINESS ACTIVITIES

Province	Type of Activity for Expansion					Total
	Farming	Marketing	Shops	Oil Press	Hammermill	
Eastern	4	2	6	1	1	14
Luapula	10	3	8	N/R	6	27
Southern	7	1	1	2	10	21
Total	21	6	15	3	17	62

N/R = None reported

Note A large number of sampled hammermillers were satisfied with what they had

Source May 1994 Hammermill Survey Data

4 Conclusions of the Assessment of Project Impact in Achieving the Goal and Purpose

The National Hammermill Program has indeed provided the stimulus for improving the well-being of rural and peri-urban households. With the introduction of hammermills in the rural areas, there has been a reduction in the expenditures on maize meal by rural households. Reduced expenditures, however, do not imply reduced consumption, since the household survey indicated both an increase in the number of meals consumed per day and an increase in the amount of maize meal consumed at each meal.

ZAMS, and its co-implementors, played a key supportive role to the NHP through training and technical assistance. By helping to improve the efficiencies of hammermill enterprises, and thereby securing their economic viability, rural consumers benefited. Thus, measured by the improved nutritional status and well-being of the rural population, ZAMS attained sufficient impact toward achieving the project's goal and purpose.

C Enhanced Opportunities for Small-Scale Food Processing

1 Maize Market Liberalization

Maize market liberalization enhanced the opportunities for small-scale milling in both peri-urban and rural areas. Before liberalization, parastatals and cooperatives dominated grain marketing/merchandizing. Prices were set arbitrarily low, and buying and selling was controlled by state-owned enterprises. Small-scale food processors, and in particular hammermills, were not allowed to buy grain from the cooperatives. Thus, they were effectively limited to service milling where the customers bring their own grain and pay a fee for having it milled.

Through market liberalization, prices are now determined (in theory) in the market. Subsidies on maize meal were eliminated in 1991-92.¹⁹ In a short period of time, the maize meal prices adjusted upwards in the marketplace to reflect this change. Buying and selling of commodities has few, if any, controls, and it is now possible for hammermills to become registered to do commercial milling. The registration of urban and peri-urban hammermills for commercial milling has been facilitated through the ZAMS project. These changes have led to unprecedented opportunities for Zambian entrepreneurs to create small-scale agribusinesses.

During the drought of 1992-93, yellow maize was made available to urban and peri-urban hammermills and individuals reselling directly to the consumers. Analyzing the summary of the recent inventory of hammermills in the Lusaka urban and peri-urban area, Table 19, one can readily see the extent of this distribution capacity. The total number of hammermills in this area increased 80 percent over the number of hammermills inventoried in 1991. This upward trend in the number of hammermills being located in the urban and peri-urban areas is also indicative of the rural areas. Assuming an operating efficiency of 30 percent, these Lusaka area hammermills are capable of producing over 90 percent of the total maize meal requirements for Lusaka.

Conclusions Hammermills, large-scale mills, and others (including individuals) directly retailing maize now compete for the maize meal market. Since subsidies are no longer paid to millers, milling inefficiencies by large- and/or small-scale mills are no longer encouraged, as was the case in the past when subsidies were paid directly to large-scale millers by the GRZ.

¹⁹ The elimination of subsidies on maize meal was a major component of USAID/Zambia's Maize Market Decontrol Program (MMDP) policy agenda.

Table 19 HAMMERMILLS IN THE LUSAKA URBAN AND PERI-URBAN

	Income		Stockfeed	Maize Meal	
	Group	Number of	Capacity	Capacity	Capacity (*)
Area	(Up/Mid/Low)	Mills	(Kg/Hour)	(Kg/Hour)	(MT/Month)
Chawama	90% Low	14		8,200	787
John Howard	95% Low	12		5,935	570
Lilayi	90% Low	4		2,010	193
Linda	98% Low	5		2,325	223
Buckley	90% Low	3		1,585	152
Ferngrove	90% Low	3		1,500	144
Matero	90% Low	4		1,850	178
Kabanana	90% Low	5	1,370	3,105	298
Malepole	95% Low	1		600	58
Chaisa	98% Low	9	1,350	4,125	396
Mandevu	98% Low	3		2,585	248
Chipata	90% Low	3		1,735	167
L/Industrial		7	2,740	4,470	429
Kanyama	98% Low	6		2,865	275
Makeni	85% Low	21	2,000	17,535	1,683
Ngwerere	98% Low	7		6,780	651
Mutendere	90% Low	2		800	77
Mikango	85% Low	3		1,500	144
Bauleni	98% Low	5		2,900	278
Ngombe	99% Low	1		400	38
Kaunda Square	90% Low	1		685	66
Garden	98% Low	8		5,195	499
Kalingalinga	98% Low	1		300	29
Ibex	74% Low	3		1,635	157
Chamba Valley	75% Low	13	12,000	19,835	1,904
Other (**)		3		1,835	176
Total		147	19,460	102,290	9,820

Source "Census of Hammermills in Lusaka Urban and Peri-Urban," Zambia Agribusiness and Management Support Project, January 13, 1994 Report on survey completed January 8, 1994

(*) Assumes 4 hours per day 6 days per week 4 weeks per month

(**) Chinika, Chibolya Malata Compound Kabulo Chanda

2 Marketing and Processing Centers

The concept for market centers was originally developed in conjunction/paralleling the VIS maintenance/repair/training facilities, i.e., central service workshops. These central service workshops were to contain a training center, a precision tool room, and a facility for the distribution of spare parts.²⁰ Services were to be offered/sold to clients on a full-cost basis. The centers would provide the nucleus where small, private sector entrepreneurs and artisans would be clustered for the purpose of providing geographically convenient repair services, a source of spare parts for the owner/operators of hammermills and small-scale oil extractors, and also serve as sites for extensive training of owners/operators and other relevant participants in the hammermill/small-scale oil extraction industry.

The development of agricultural market centers in outlying and other areas of the country is based on the notion of hammermills and small-scale oil extraction businesses serving as a focal point. These centers would serve as a vital link in the development of farm to central/export markets for agricultural products.²¹ In addition, these centers would help to decentralize the input supply system.

VIS Maintenance/Repair/Training Facilities. The rehabilitation/construction of two out of the three proposed VIS regional maintenance/repair/training facilities were completed prior to the termination of USAID support to VIS. The development of a third facility was never initiated. However, tools, equipment and other accessories were never procured for the facilities completed. Nonetheless, the completed centers weren't completely abandoned and are presently being used to carry-out VIS training programs and some units of the facilities are being rented-out to fledgling entrepreneurs, several of which are mechanics.

Hind-sight will never provide any useful information about whether the project designers were wrong or right in including these regional centers as part of the project design. VIS concludes that these centers have a place in the development of rural enterprises, whereas ZAMS/RONCO concluded that because of the high cost of outfitting the centers they weren't viable. Each may be right, but a considerable amount of money was spent up-front for the establishment of the regional centers and in the end no follow through has been made. Thus, without increasing the institutional knowledge base little has been gained in the way of lessons learned from this effort.

Pilot Efforts with Marketing Agents. To date, ZAMS is engaged in five activities: BIMZI Limited, Twin Fountain Farm, Mumbo International Trading Limited, Chiawa, Mazabuka Marketing Company Limited. These entities are promoting outgrower schemes in conjunction with the production/export of such commodities as sorghum, maize, sunflowers, mixed beans, castor beans, sesame and soybeans (See Annex F for a brief description of each activity).

²⁰ Project Paper Supplement February 1991 page 18

²¹ ZAMS - Where Has It Been and Where Is It Going?, John G. Litschauer, January 1994

As part of the ZAMS Project's efforts to expand the range of opportunities for small-scale food processors, the marketing specialist's contract was extended. In theory ZAMS is addressing this objective through linking progressive business entrepreneurs with hammermills and oilseed pressers and their clients to develop several agricultural marketing and processing centers. The purpose of developing these centers is to provide the means through which marketing arrangements, credit facilities and management information can reach the small-scale hammermills and small-scale producers. In time, the oilseed component of the ZAMS project, small-scale oilseed processors, may also benefit from the agricultural marketing and processing center model.

An important component of the marketing and processing center idea is the development of rural storage facilities, i.e., on-farm storage and storage at locations of small-scale agro-processors. Although ZAMS/RONCO has contacted various local manufacturers, a suitable storage structure of fair quality and inexpensive is not being mass produced, as yet.

The sale of the agricultural products collected at the marketing centers is being facilitated by the progressive business entrepreneurs liaising with reliable commodity brokers. In addition, the ZAMS/RONCO marketing specialist has facilitated several regional marketing arrangements for sizable quantities of commodities.

The pilot activities address several important issues facing Zambia's private sector in agricultural marketing. First, potential markets for agricultural commodities, both domestic and export, are not well known in Zambia. Cooperatives in the past have been the buyers of first and last resort. Where and to whom the cooperatives sold to was not of any concern to the producer, particularly small-scale producers, and/or private sector traders (since there were none) when it came time to market an agricultural commodity. Now that this past structure is no longer relevant, the producer and the private sector trader are actively involved in this process. Thus, working with large progressive business entrepreneurs provides the opportunity to open the doors to markets not previously tapped and to enable the liberalized market system to begin to function.

Second, without a functioning market system, the development of rural market centers, which will become the primary markets for the small-scale producers, will not be able to function unless the market system is functioning on top. This does not mean that the concept of rural market centers should be abandoned. It is highly improbable that small-scale producers will in the long-term be able to market all their production through outgrower schemes nor is it plausible that outgrower schemes will continue in the level of importance for the progressive business entrepreneurs. Thus, the importance of rural market centers has not diminished as a result of the pilot activities being undertaken by ZAMS/RONCO.

Crop Diversification To increase the economic viability of the hammermills and ram-presses, ZAMS/RONCO has been involved in promoting the production of sorghum, sesame seed and castor beans. Sorghum has proved of particular interest. Several sorghum buyers contacted last season indicated their desire to increase purchases this year.

Conclusions ZAMS/RONCO has ventured into an area to undertake several pilot activities for which the linkages to the small-scale processing sector are weak, to say the least. Although a tremendous void exists in the agricultural marketing system in Zambia regarding market information, both for domestic and export markets, as well as on viable private sector trade organizations, some assistance to the progressive business entrepreneurs may be warranted. However, reaching down from the top to assist the small-scale agro-processors and producers, as the activities are currently formulated, is not conducive toward long-term sustainability.

3 Conclusions on Enhanced Opportunities for Small-Scale Food Processing

Market liberalization has opened the doors for the development of both the large- and small-scale agro-processing industries. The elimination of subsidies on maize products has made the maize milling industry as a whole very competitive. However, there is a wealth of opportunity that remains untapped for Zambian entrepreneurs that will only come to fruition as the liberalized market system continues to develop.

Although a tremendous void exists in the agricultural marketing system in Zambia regarding market information for both domestic and export markets, providing assistance to the progressive business entrepreneurs and/or viable private sector trade organizations may not provide a sustainable solution. Reaching down from the top to assist the small-scale agro-processors and producers, as the activities are currently formulated, is also not conducive for long-term sustainability.

D USAID/Zambia's Management and Implementation of the ZAMS Project

The project is currently being implemented through a direct USAID contract with RONCO Consulting Corporation (RONCO), a Grant with Africare, and a Local Currency Grant to SIDO. Until December 1993, there was a Grant with VITA, a Cooperative Agreement with VITA, and Local Currency Grants with VIS. The GRZ's Ministry of Commerce, Industry and Trade is the cooperating agency of the government. USAID/Zambia assigned a direct hire general development officer as project officer who has then assigned project management responsibilities to a PSC project manager.

The effectiveness of project management and implementation for the purposes of this report, is measured by the management of project resources, the timeliness of decision making, and the adjustment of project workplans to respond to emerging issues and problems.

1 Documentation, Correspondence and Reporting

During the initial phase of implementation, a CIP activity was undertaken by the Mission with the support of the regional commodity officer for the importation of tires, tubes and spare parts for the transport sector. Approximately \$1.8 million was disbursed under this activity.

The RONCO contractor appears to have been exceedingly responsive to both GRZ and USAID concerns. However, in the second phase of implementation, after March 1991, the prime contractor's role was not clearly defined. Performance has been largely the result of strong, yet collaborative leadership provided by the RONCO chief of party. An example of project flexibility and responsiveness of RONCO was evident in the project's role in addressing the problems attendant with the 1991-92 drought.

Project inputs were, in general, delivered on time. A major exception was the tools and equipment for the VIS repair facilities. Inventories of project commodities are being maintained and the equipment which has been procured is well maintained through the support services of the project.

The GRZ agreed to provide a host country contribution in the amount of \$4.6 million in local currency. USAID records indicate that the GRZ contributes nearly the full amount of local currency agreed upon.

2 Monitoring and Evaluation

A specific monitoring system was called for in the project design. RONCO developed a monitoring and evaluation system.²² However, the lack of an overall project workplan and coordinated monitoring system to measure progress toward project objectives, was not developed. The monitoring plan should have developed indicators and benchmarks for each EOPS or project activity and collected specific data to determine if the objectives were being achieved. Instead, each project advisor developed a quarterly/annual workplan and reported on progress in each quarterly report. It does not appear that the individual reports were summarized, collated and presented as the Project Quarterly Report.

In addition there is no record of a formal review and/or approval of the workplans. In several cases there are memos to the chief of party querying the content of the workplan, but there does not appear to be any documentation resolving issues and/or modifying workplans.

3 Conclusions on USAID/Zambia's Management and Implementation of the ZAMS Project

Project documentation, correspondence and reporting requirements have been completed satisfactorily. The ZAMS project continues to provide quarterly updates on project activities. However, one gets the sense from these reports that RONCO is the "only" project implementor.

Initially, ZAMS produced an extensive monitoring and evaluation report on the hammermill program. The depth of the material was an over-kill in terms of providing guidance for restructuring/improving the implementation plan for ZAMS activities, i.e., for such a narrow

²² John W. Smith, The Design of a Monitoring and Evaluation System for the Zambia Agribusiness and Management Support (ZAMS) Project. May 1991.

scope this broad data base cooked-up many ideas, good and bad, external and internal to the project activities. Thus, a large amount of money was spent collecting information that USAID/Zambia never put to use. In addition, implementation of ZAMS activities has not adhered strictly with the project documentation.

VII SUMMARY AND CONCLUSIONS

Zambia is the second most urbanized country in sub-Saharan Africa, with over 50 percent of the population living in urban and peri-urban areas. The rapid migration has compelled the GRZ to focus on interventions that stimulate the motivation to remain in rural areas through increasing demand for agricultural products at higher prices, new business/income-generating opportunities, and better nutrition. Under past policies through which the state dominated agricultural marketing, ZAMS had limited scope to influence improvements and efficiency of the marketing system as a means to accomplish the project's goal. Focussing on rural hammermills and small-scale oilseed processing was a way to assure some impact.

However, during the course of the project's implementation, the socialist-leaning UNIP government was defeated in a democratic election in October 1991, and a new, market-oriented government assumed power. The installation of the MMD government brought with it a reversal in economic philosophy and policy that provided an opportunity for ZAMS to achieve a far higher level of success. This opportunity did not desist even as Zambia faced the most severe drought in southern Africa's history.

The project redesign in 1991 placed a heavy emphasis on NGO/PVO involvement as co-implementors in the implementation of ZAMS. The prime contractor was to play a more supportive role in providing assistance for training, monitoring and evaluation, and dissemination of information. However, the NGO sector in Zambia capable of assisting the development of small-scale agro-processing and marketing enterprises is small and weak. In fact, at the time the project was redesigned there were mainly two organizations, VIS and SIDO (a parastatal), existing in Zambia with country-wide outreach. USAID/Zambia's efforts to strengthen these organizations under the ZAMS umbrella were only partially successful.

VIS, under the tutelage of ZAMS funded VITA technical assistance, was a prime mover in the GRZ's National Hammermill Program having received soft loans from the GRZ of approximately Kw63 million for the acquisition and distribution of hammermills. As the economic conditions changed over time, this funding was not adequate to cover the distribution costs or the cost of basic training in operation and maintenance of the hammermills. Additional USAID counterpart funding was obtained and ZAMS technical assistance helped with the development and institutionalization of an appropriate training program at VIS. Nevertheless, VIS was incapable of getting a handle on its management responsibilities and after an external audit was unable to account for all the counterpart funds VIS had received resulting in USAID's termination of the VIS activity.

VIS involvement in the National Hammermill Program did not end when USAID terminated its support and they have since continued to distribute, both new and repossessed, hammermills in the rural areas. The cadre of VIS trainers trained through the ZAMS activity have since moved on and much of the vitality of the VIS training activity is no longer there. However, VIS's dedication to the development of small and micro-enterprises will continue as their strength in the future.

More than 2,500 hammermills were distributed through the GRZ's National Hammermill Program over the project implementation period. The number targeted for distribution by the ZAMS co-implementors represented approximately 30 percent of the total distributed. In a way, numbers don't count since an underlying objective was in the establishment of sustainable hammermill enterprises.

In effect, the termination of the VIS/VITA activities eliminated the ZAMS support to strengthen indigenous NGOs in the development of small-scale agro-processing and marketing activities which was a major thrust of the ZAMS redesign. USAID/Zambia did not come up with an alternative to fill this void, as no viable local NGO/PVO existed. Thus, when the hammermill activity comes to a conclusion, the supporting agency envisioned by the project designers to remain in place to continue the development of small-scale agro-processing enterprises will not exist.

An earlier evaluation of ZAMS activities completed in June 1992, had little constructive to say regarding the success or failure of the activities being undertaken, due to the brief implementation period. However, several recommendations in the report allude to the design of a follow-on activity, which if the project had been redesigned at that time may have been useful. The recommendations specific to the on-going ZAMS activity, i.e., an audit of VIS activities, an assessment of the viability of regional market centers, etc., were carried out over the ensuing implementation period.

RONCO's current agenda closely follows the direction recommended for the proposed follow-on activity without any modification being made in the project documentation, i.e., "project implementation should cover the wide angle, systems, large applications, and direct interventions at the field level." This has led to a major deviation in the "supporting" role envisioned for the prime contractor in the PP supplement. The support being provided to progressive business entrepreneurs in the pilot market activities may have been warranted given the stage of market development in the liberalized market environment. However, the current focus is away from small-scale agro-processing and marketing enterprises, which was to be primary thrust of the ZAMS project, to one of agro-processing and marketing with "small-scale" discussed in terms of outreach and outgrower schemes.

The ZAMS monitoring and evaluation system is complex and not very useful. The collection of market price data is sporadic and not subject to rigorous statistical analysis, since the time series are incomplete. For example, ZAMS/RONCO collected prices for one or two months in a given set of markets, and then collected prices for the next several months in a different set

of markets. Although several markets in the second set may be the same as the markets in the first set, a complete time series of prices doesn't exist for any one market. In addition, ZAMS/RONCO collected a considerable amount of extraneous data and never analyzed it, i.e., it's time to go out and do another study. After the M&E systems original design, little seems to have been done to verify/validate the need for the data being collected and/or modify the system to make it more relevant.

One niche where ZAMS has had a tremendous impact is in training. Initially, it was basic training in operations and maintenance of hammermills and oilseed presses and then expanded into training programs which supported the development of viable and sustainable small-scale agro-processing enterprises. These "healthy" small-scale agro-processing enterprises are found both in the peri-urban and rural areas. In all aspects of training, the ZAMS - SIDO collaborative efforts have obtained the desired results. Thus, ZAMS was very successful in enhancing the sustainability of the small-scale agro-processing (hammermill) enterprises.

In general, ZAMS training activities have been right on target. This is attributable to the collaborative efforts of all co-implementors, RONCO, VITA, VIS, SIDO, and Africare. The long-term training has been completed and the short-term third-country training was successfully re-directed into short-term, in-country training activities. The number of participants has in most cases exceeded expectations although the demand for further training activities is quite high.

Considerable progress was made over the project period in achieving the project goal and purpose. The increased volume of agricultural products processed, both in the rural and semi-urban areas, resulted in more meals being consumed, especially by the rural population, and thus an improvement in the nutritional status of the rural and semi-urban population. It also resulted in a reduction in cost of maize meal to the rural and semi-urban consumers. Several activities undertaken by the project to improve the efficiency in the marketing system are promising, although their adoption by marketing agents in the long-term may be negligible.

However, the impact of those activities initiated in phase I of the project, i.e., the foreign exchange program for the importation of spares for the transport industry and the procurement of agro-processing equipment and supplies, is not evident in the present political/economic setting in Zambia. Nevertheless, ZAMS activities supporting the market liberalization process in Zambia are notable.

ANNEX A - SCOPE OF WORK FOR EVALUATION

ZAMBIA AGRIBUSINESS AND MANAGEMENT SUPPORT PROJECT

Project Number 611-0214

Background

The Zambia Agribusiness and Management (ZAMS) Project was conceived as an agricultural marketing project in which marketing was defined to include essentially all activity from the farm gate to the consumer, plus the supply of agricultural inputs to farmers. The aim was to stimulate private sector investment in marketing and agribusiness activities. The kinds of activities envisioned were mostly small-scale agricultural and food processing, such as the processing of fruits and vegetables, sunflower seeds, and soybeans for domestic consumption. The project was designed to be flexible in the kinds of marketing or agribusiness activities to be assisted, so long as they fitted a rather rigorous set of criteria, i.e. benefit cost ratios, or internal rates of return, were to be calculated for each specific venture to be assisted.

Besides technical assistance and training, the project provided foreign exchange at the official rate²³ for the import of machinery and equipment for private sector clients identified by project implementors as small- to medium-scale agribusiness entrepreneurs with viable investment opportunities. Given the economic policies and climate at the time (mid-1988), the foreign exchange element was included partly as a way for USAID to buttress the country's foreign exchange situation. An initial \$2 million was authorized by USAID in early 1989 to import spare parts, mainly tires, for trucks used primarily to transport farm produce.

Implementation of ZAMS was started in July 1989. A number of clients were identified with investment ideas consistent with the project's criteria, and business plans were developed for several of these.

Following an intensive internal project review during August/September 1990, the Project was refocused in order to achieve significantly greater impact while maintaining the Project's original purpose and thrust. While there was not a change in the goal and purpose of the Project, the redesign focused interventions on the support of GRZ efforts to liberalize and encourage local investment in the small-scale processing and marketing of grains, particularly maize meal and oil seeds. This refocusing entailed a shift away from generalized agricultural sector support under the stagnant import support activity to specific interventions limited to third country and in-country training and NGO activities.

²³ At the time of project design the exchange rate was kwacha 8 per U.S. dollar 1

Under the refocused Project, technical assistance provided by NGOs dealing directly with small-scale rural food processors and supporting small scale agribusiness enterprises represents the main thrust of the Project. Contract technical assistance will continue in a role that will directly involve itself with and support implementation. ZAMS training and monitoring specialists will also assure coordination among participating NGOs in training and monitoring activities.

General Project Description

The Project goal is to increase Zambia's agricultural production, rural incomes, and nutritional status through improvements in the agricultural marketing system for both agricultural inputs and outputs.²⁴

Objectively Verifiable Indicators²⁵

- ▶ Increased allocation of farm resources to economically viable activities,
- ▶ Increased marketed output,
- ▶ Reduction in importation of selected agricultural products
- ▶ In target areas
 - 1 increased rural income and employment,
 - 2 greater availability and reduced cost of selected inputs and outputs,
 - 3 positive change in nutritional status

The specific Project purpose is to improve the operational efficiency of the agricultural marketing system for selected agricultural inputs and outputs and promote market development.²⁶

Objectively Verifiable Indicators²⁷

- ▶ Increased volume of rural processing for maize and oil seed
- ▶ Reduction in transaction costs for processing and marketing

²⁴ Project Paper Supplement February 28, 1991, page 9

²⁵ Project Paper Supplement, February 28, 1991, Annex A, page 1

²⁶ Project Paper Supplement, February 28, 1991, page 9

²⁷ Project Paper Supplement, February 28, 1991, Annex A, page 1

- ▶ Expansion of private sector activity in agricultural marketing
- ▶ Increased GRZ capacity to support private sector marketing
- ▶ Increase in national transport capacity to distribute agricultural inputs and outputs

The Project aims to improve agricultural marketing systems through technical assistance, training, commodities, and institutional strengthening of selected Zambian NGOs involved in providing marketing related services. The GRZ will support these efforts by local currency grants and/or loans, through the use of USAID counterpart funds, for *inter alia* in-country training, technical experts, and institutional strengthening efforts.

Project outputs include the following ²⁸

- 1 Increased processing and marketing of maize and edible oil in rural areas using appropriate small-scale technology ²⁹
- 2 Expanded ~~rural-based~~ intermediate and final agro-processing capacity in rural areas
- 3 Improved availability of tires, tubes and spare parts for the transport system
- 4 Improved human resources contributing to market system improvements
- 5 ~~Timely provision of~~ Input supplies provided on time and in desired quantities for use by small-scale farmers
- 6 Increased ~~rural~~ employment
- 7 Improved ability of selected NGOs to provide services to small-scale entrepreneurs ~~in support of agribusiness growth~~

Illustrative list of anticipated project inputs ³⁰

Technical Assistance

²⁸ Project Paper Supplement, February 28, 1991 Annex A, page 2

²⁹ Redline and cross out added to reflect language in the Third Amendment to Project Grant Agreement, Dated April 19, 1991

³⁰ Third Amendment to Project Grant Agreement, dated April 19, 1991, Annex 1, page 1

- ▶ Approximately 16 3 person/years in long-term U S T A personnel,
- ▶ 158 person/months in short-term U S /Third country technical assistance (including VITA consultants and IESC volunteer executives), and
- ▶ 110 person year in local technical assistance

Training

- ▶ Approximately 15 person/years in overseas degree training,
- ▶ 150 person/months in overseas non-degree training, and
- ▶ 800 person/months of in-country non-degree training

Commodities

- ▶ Technical equipment for maintenance of hammermills and other agro-processing equipment, tires, tubes and truck spares (activity completed), supplies, office equipment and vehicles

Institutional Strengthening of Local Organizations

- ▶ Capacity building support for Village Industry Service (VIS) and Small Industry Development Organization (SIDO)

By the end of the project, it is expected that the following will be achieved ³¹

- ◆ increased volume of rural processing of maize and oil seed,
- ◆ reduction in transaction costs for processing and marketing,
- ◆ expansion of private sector activity in agricultural marketing,
- ◆ increased GRZ capacity to support private sector marketing, and
- ◆ increase in national transport capacity to carry agricultural inputs and outputs

Note An amount of \$1 million will be retained in bank letters of commitment for import activities approved during the original configuration of the Project and, under the amended Project, the procurement of other commodities directly related to the enhancement of the grain

³¹ Third Amendment to Project Grant Agreement, dated April 19, 1991, Annex 1, page 2

milling and oil extraction subsectors³² ★ The four client projects which have been funded under this Project will be brought to completion by the ZAMS T A team³³

Scope of Work

The objective of the evaluation is to assess the overall success or failure of the project to achieve the project goal and purpose. In addition, an assessment of the various output impacts achieved in reaching end-of-project status will be undertaken. The goal and purpose levels will focus on assessing project impact in three broad areas:

- 1 nutritional improvements in areas where food processing activities are supported,
- 2 the economic benefits of increased rural processing from the viewpoint of the consumer, and
- 3 the economic viability of small-scale rural processing enterprises

The assessment of project outputs will focus on the ZAM's hammermill program and its linkages/relative importance to the GRZ's National Hammermill Program. In addition, an assessment will be undertaken of the prime contractors' impact on the hammermill program through training, monitoring and evaluation activities, technical assistance and agribusiness development. Outputs with objectively verifiable indicators to be considered are:

- 1 Increased processing and marketing of maize and edible oil in rural areas using appropriate small-scale technology
- 2 Expanded intermediate and final agro-processing capacity in rural areas
- 3 Improved availability of tires, tubes and spare parts for the transport system
- 4 Improved human resources contributing to market system improvements
- 5 Input supplies provided on time and in desired quantities for use by small-scale farmers
- 6 Increased employment
- 7 Improved ability of selected NGOs to provide services to small-scale entrepreneurs

³² Project Paper Supplement, February 28, 1991, page 12

³³ Third Amendment to Project Grant Agreement, dated April 19 1991 Annex 1, page 3

Objectively Verifiable Indicators³⁴

- ▶ 200 and 500 hammermills distributed by VIS and SIDO, respectively, operating efficiently

100 oil expellers/extruders established and functioning

- ▶ Approximately 500 vehicles returned to service as a result of spare part availability Approximately 6 million ton miles of truck transport facilitated

- ▶ 60 public and private sector individuals trained in third countries in agro-marketing related areas

6 Master's degrees completed and participants returned to service

800 personnel trained in (at least 30 percent women) in-country short courses

- ▶ 3 training and maintenance centers established in rural areas by VIS 10 private entrepreneurs establish maintenance centers

- ▶ Improved performance of private maintenance centers in rural areas

- ▶ 1500 additional jobs created from hammermill operations

- ▶ 75 full-time jobs created for women in oil processing

- ▶ VIS and SIDO servicing 20 percent more clients

Important Output Assumptions

- ▶ Recommendations of ZAMS TA and implementing NGOs are sound, accepted and carried out Trainees identified and sent to training in a timely manner
- ▶ Short course curricula developed and put in place
- ▶ Timely delivery of imported commodities
- ▶ Timely access to credit, training and fuel by small-scale farmers and groups

³⁴ Project Paper Supplement, February 28, 1991, Annex A, page 2

- ▶ Production technology is appropriate and ancillary support services available to producers in a timely manner
- ▶ Implementing NGOs carry out support activities in an effective and timely manner

Methodology

The scope of work for this evaluation requires an assessment of the degree to which the Project has contributed to or influenced the end of project status and implicitly whether the project purpose was achieved as defined in the project documents. Official project files/records/reports in USAID/Zambia will be reviewed as an important source of information, particularly regarding project inputs and outputs, host country contribution and agreements and decisions regarding project direction. In addition, interviews with relevant contract personnel (RONCO), NGOs (primarily VITA), VIS, SIDO to assess the progress in meeting project objectives

A survey of hammermillers in three rural areas, Eastern, Southern and Luapula provinces to determine

- ▶ Sources of grain for milling,
- ▶ Client profile,
- ▶ Milling orientation - service or commercial,
- ▶ Source and type of training and/or other assistance received,
- ▶ Availability and location of spare parts and service

Approximately 25 hammermillers in each of the three Provinces will be included in the sample. The sample will be drawn randomly from a list of hammermillers in the Provinces.

The status of establishment of the VIS training and repair centers will be determined. This was an essential element of the VITA/VIS activities in support of the concerns brought out in the baseline data study.

In addition, an assessment of the progress in establishing the six market centers, 5 rural and 1 peri-urban, will be undertaken. This assessment will determine the degree to which hammermillers and/or oil seed presses are the core of each of the prospective market centers.

★ **Caveat** Africare oilseed activities are not a focal point of the evaluation. However, spill over effects from the oilseed activities regarding the establishment of market centers and/or hammermill activities will be noted.

ANNEX B - LIST OF PERSONS CONTACTED

USAID/Zambia

Fred Winch
David Straley
John Wiebler
John Foster
Val Mahan
Mathias Gweshe
Maritoni Enraca
Rudolph Thomas
Betty Wilkinson
Susan Gale

Zambia Agribusiness and Management Support (ZAMS)

Harvey Schartup
Joseph Tembo
Amon Mwalusaka
John Litschauer (Consultant to RONCO)

Zambia Agricultural Training, Planning and Institutional Development (ZATPID) - MAFF Consultant

James MacKenzie

VIS

Felix Chibuye
S Kapaku

SIDO

Mandesi C Kaumba
Chiselebwe Ng'andwe

BIMZI

Ms Cathy Mwanamwambwa

Mumbo International Trading Limited

Ms Katongo-Maine

ANNEX C - STUDIES CONDUCTED BY THE ZAMS PROJECT

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- Temba, Joseph and Victor Thatcher Malwa, ZAMS Transport Commodity Activity, An Evaluation, March 1993

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- Due, Jean, Have Hammermills Benefitted Rural Zambian Women and Families, November 1993
- Litschauer, John G , The Zambia Agribusiness and Management (ZAMS) Project Where Has it Been and Where is it Going, January 1994
- Litschauer, John G , An Assessment of the Sustainability/People Level Impact of the National Hammermill Program (NHP) in Zambia, April 1994

ANNEX D - LUSAKA HAMMERMILL SURVEY INFORMATION³⁵

Association with ZAMS

- ZAMS delivers monitoring documents to hammermill operators to fill-in, but never comes back to collect them
- ZAMS talks, but we see very little action

Training

- Some have received training of one kind or another
- Where training has been received, operators/owners know various components/parts of hammermill, but don't know the pros/cons of using different screens, etc

General Comments

- Too many hammermills - many have only one or two customers per day
- Hammermilled hulled grain is as good, if not better than, large-scale mill produced breakfast meal
- Locations of mills do not correspond to ZAMS lists
- Some mills are located/owned in isolated areas - little chance they will be viable in the long-run

The abbreviated survey of Lusaka hammermillers was conducted over a 3 day period (May 10-12, 1994) to verify information obtained from ZAMS monitoring reports. Worth noting are the following points

- ◆ Although prices were quoted for maize (grain) at most of the mill surveyed, only one had any maize on-hand to sell
- ◆ One mill in the sample (represents 5.5 percent of sample) has a dehuller installed
- ◆ None of the stores near a hammermill had hammermilled meal for sale
- ◆ One mill in the sample sold hammermilled meal

There was little variation in the maize meal prices in the store nearest to a hammermill. However, the spread between breakfast and roller meal prices seems to be widening. These changes correspond to the recent price announcements by the mills and the mills' explicit move to lower the price on roller meal to a level that is competitive with hammermilled meal. Although the survey only provided one observation, comparing the price of hammermilled meal with the average price for roller meal shows that the price of hammermilled meal is 5 percent

³⁵ Survey conducted in the Lusaka urban and peri-urban areas by Margaret Chisamba and Chipso Chongo Jiri Eneke during May 10 - 13, 1994

higher Note however, that this observation was from the mill which has installed a dehuller, thereby producing a better quality meal than that from other hammermills

Table 1 Summary of Lusaka Hammermill Survey

Location	Number of Mills	Price to Purchase 25 Kgs of Maize Meal at Nearest Store		Waiting Time	Charge for Milling 15 Kilograms
		Breakfast	Roller	Minutes	
Lilanda	1	4,900	4,200	20	300
Matero	1	5,500	4,800	15	250
Chipata	2	5,100	4,400	13	250
Kabanana	2	5,400	4,500	15	425
Chaisa	2	5,250	4,450	12	225
Kanyama	2	5,500	4,400	18	250
Chawama	2	5,350	4,350	14	200
Bauleni	2	5,800	4,800	11	275
Garden	2	5,200	4,300	18	225
Mtendere	1	5,000	4,500		
Kaunda Sq	1	5,200	4,500		
Total/Average	18	5,291	4,473	15	267

Two other mills in the sample (11 percent) have moved out of the Lusaka area Although these mills are still listed on the ZAMS inventory of hammermills, they have not operated in the Lusaka area for some time, if they operated in the Lusaka area at all Other than information on prices of maize meal in the nearest store, no other information was available at the site listed for these mills

One mill owner said that he had requested assistance from ZAMS to help develop additional small business around his hammermill to, in essence, develop /establish a market center In fact, he said that after his initial contacts with ZAMS he invested in the dehuller, an additional mill, and the facilities for storage in anticipation of ZAMS assistance He claimed that, to date, ZAMS had failed to provide any assistance for developing the additional shops Nevertheless, this mill owner and operator stood-out as individuals that had benefited from the ZAMS training program(s) as well as the assistance provided regarding the operation and maintenance of the hammermill/roller mill

The methodology used in the survey was to approach the mill with a small quantity(5 to 10 kilograms) of maize (grain), wait in the queue, and then have the maize milled The mill then assessed a charge for the milling, which was paid by the surveyors, and the miller was asked about sales/availability of maize (grain) and meal for sale The was a significant difference in hammermill efficiency when comparing the quality of the meals obtained from the sampled

mills The quality was far better, both in texture and color, from the hammermill with the installed dehuller than any of the other mills Using this sample as the "optimal" quality, other samples varied from the color being white to gray and the texture being floury to very gritty

When the hammermillers were asked about the quality, most said that better quality could only be obtained through sifting and that the operation of the hammermill did not have much effect on the quality of meal obtained

Lusaka Hammermill Survey Raw Data

No	Location	Name	Price to Purchase at Nearest Store 25 Kilograms of Maize Meal			Price to Buy 15 Kg Tin of Maize		Milling Time Minutes	Milling Service Charge	Hammermill Site Price of Mealie Meal	
			Breakfast	Roller	Hammermilled	Hybrid	Traditional			Hybrid	Traditional
1	Lilanda	Mukokoma Grocery	4,900	4 200		1,800	2,000	20	300		
2	Matero	Akap Milling	5,500	4,800		1,800	2,000	15	250		
3	Chipata	Mr D Phiri	5,000	4,500		1,800	2,000	5	250		
4	Chipata	Mr Faindani Mumba	5,200	4,300		1 800	2,000	20	250		
5	Kabanana	Mr S Nsama	5,400	4,500		2 160	2,400	25	600	2,250	2,700
6	Kabanana	P Ngoma				1,800	2,000	5	250		
7	Chaisa	Mr F Kaumba	5,200	4,500		1,800	2,000	8	200		
8	Chaisa	SMIT Milling	5,300	4 400		2,000	2 300	15	250		
9	Kanyama	Machiko Milling	5 500	4,500		1,800	2,000	20	250		
10	Kanyama	Jipeta Milling	5,500	4,300		1,800	2,000	15	250		
11	Chawama	Makinka Milling	5,200	4,200		1,800	2 000	17	200		
12	Chawama	Mummy's Jobbing	5,500	4,500		1,800	2,000	10	200		
13	Bauleni	Tum Milling	5,800	4,800		2,000	2,500	10	300		
14	Bauleni	Catholic Church	5,800	4,800		2,000	2,500	12	250		
15	Garden	Zebbedia Mushipe	5,200	4,300		1,300	1,800	15	200		
16	Garden	Changeaga Milling	5,200	4,300		1,300	1,500	20	250		
17	Mtendere	D Musati Milling	5,000	4,500							
18	Kaunda Sq	No Hills Enterprise	5,200	4,500							
Average			5,318	4 465		1,797	2,062	14	266		
Minimum			4,900	4 200		1,300	1,500	5	200		
Maximum			5,800	4,800		2,160	2,500	25	600		
Standard Deviation			250	188		216	247	6	91		

Note Buy Mealie Meal prices are for 12 kilograms

ANNEX E - TRAINING IN THE ZAMS PROJECT

Name	Sex	Depart Date	Complete Date	Major Field of Study	Training Facility	Degree
<u>ACADEMIC</u>						
Kabeya, Yvonne	F	08/14/90	08/09/92	Bus Mgmt	U of Illinois	MS
Mweetwa, Elizabeth M	F	12/28/90	03/31/93	Food Processing	Ca Poly St U	MS
Mwila, Alfred M	M	08/18/90	12/31/93	Ag Economics	NC Agri/Tec St	MS
Nakaponda, Bethel	F	08/31/90	11/30/92	Ag Develop	Michigan St	MS
Ng'andu, Shirley H	F	08/31/90	09/06/92	Horticulture	Ca Poly St U	MS
<u>SHORT-TERM</u>						
Banda, Jackson	M	10/15/90	12/21/90	Mgmt	Mananga	Cert
Banda, Listard	M	11/09/90	11/18/90	Food Process	Austria	Sem
Bowa-Mwali, Teresa	F	11/14/92	11/29/92	Bus & Comm	Kenya Inst Mgmt	Cert
Changaya, Lewis F	M	05/29/90	07/31/90	Mgmt	U of Connecticut	Cert
Chella, Kelvin K	M	07/05/92	08/07/92	Comp Tech	Zimbabwe	Cert
Chibale, Harrison	M	09/02/91	10/04/91	Rural Develop	Mananga	Cert
Chibuye, Felix	M	11/03/91	12/13/91	Accounting	ESAMI	Cert
Chokoti, Kalobwe	F	11/14/92	11/29/92	Bus & Comm	Kenya Inst Mgmt	Cert
Chikoye, Mungule D	M	07/28/90	09/09/90	Agronomy	Cornell U	Cert
Chimbalanga, Levyson	M	08/20/90	09/14/90	Small-Scale Ind	ESAMI	Cert
Gondwe, Marjorie N	F	08/03/92	09/11/92	Human Res Dev	ESAMI	Cert
Kabaso, Rosemary	F	06/01/91	11/30/91	Social Services	Coady Int'l Inst	Dip
Kazela, Hilda K	F	08/20/90	09/14/90	Small-Scale Ind	ESAMI	Cert
Lungu, Victor	M	07/28/90	09/09/90	Agronomy	Cornell U	Cert
Milambo, Laston C	M	05/16/91	06/23/91	Food Process	U of Illinois	Cert
Mponde, Chisala N	M	09/10/90	10/05/90	Ag Business	Mananga	Cert
Mubanga, Maximo	M	09/02/91	10/04/91	Rural Develop	Mananga	Cert
Mulenga, George K	M	08/14/92	08/28/92	Manpower Dev	ESAMI	Cert
Munsanje, Elliot M	M	05/16/91	06/23/91	Food Process	U of Illinois	Cert
Mushanga, Russel	M	07/05/92	07/17/92	Small Bus Dev	Zimbabwe	Cert
Musukwa, Roberts	M	05/26/90	07/24/90	Ag Business	Kansas St U	Cert
Mwale, Leighton J	M	09/02/90	09/30/90	Ag Mgmt	U of Illinois	Cert
Mwamba, Agnes	F	05/16/91	07/14/91	Food Process	Ca Poly St U	Cert
Mwenya, Jordan L	M	08/11/90	11/18/90	Agriculture	U of Wisconsin	Cert
Nanguzgambo, T M	F	05/26/90	07/29/90	Ag Business	Colorado St U	Cert
Ng'andu, Victor C	M	07/31/92	08/28/92	Labor Relations	Uganda	Cert
Njekwa, Monde M	F	09/10/90	10/05/90	Ag Business	Mananga	Cert
Sangulukani, Daniel	M	07/28/90	09/09/90	Agronomy	Cornell U	Cert

SHORT-TERM - Continued

Name	Sex	Depart Date	Complete Date	Major Field of Study	Training Facility	Degree
Siampombwe, Andrew	M	08/20/90	09/14/90	Small-Scale Ind	ESAMI	Cert
Sibande, Amon	M	08/04/90	09/01/90	Observation	Acad Int'l Trng	Obs
Zimba, Christopher M	M	07/05/92	07/17/92	Small Bus Dev	Zimbabwe	Cert

WORKSHOPS AND SEMINARS

Topic	Participants		Starting Date	Ending Date	Training Location
	Men	Women			
Business Policy	25	8	11/28/89	11/30/89	Andrews Hotel
Agribusiness Management	25	1	02/17/90	02/23/90	Zambia
Business Mngmt & Admin	21	4	04/01/90	04/12/90	Zambia
Agricultural Mechanics	19	0	04/15/90	04/21/90	Nat Resources Develop
Agribusiness Management	23	2	06/17/90	06/23/90	Zambia
Ag Management Develop	27	4	08/12/90	08/17/90	Kasama Farm Inst
Agribusiness Management	27	3	05/09/91	05/10/91	Andrews Hotel
Agribusiness Management	7	0	06/01/91	06/30/91	Zambia
Agribusiness Management	38	0	07/01/91	11/30/91	Zambia
Agribusiness Management	33	13	09/01/91	09/30/91	Garden House
Agribusiness Management	14	1	12/11/91	12/14/91	Zambia
Agribusiness Management	307	10	03/01/92	12/11/93	Zambia
Agribusiness Management	8	1	06/08/92	06/13/92	Zambia
Agribusiness Management	11	0	06/22/92	06/23/92	Zambia
Agribusiness Management	7	7	02/08/93	02/12/93	Zambia
Agribusiness Management	14	0	04/26/93	07/05/93	Zambia
Agribusiness Management	14	0	05/13/93	06/12/93	Zambia
Agribusiness Management	13	0	06/20/93	06/27/93	Zambia
Agribusiness Management	12	0	08/22/93	09/05/93	Zambia
Agribusiness Management	22	0	09/12/93	09/18/93	Zambia
Agribusiness Management	27	0	11/15/93	11/27/93	Zambia
Total	694	54			

SIDO STAFF AND CLIENT TRAINING

Topic *	Number Trained	Starting Date	Ending Date	Training Location
SIDO Staff - TOT	9	06/08/92	06/13/92	Commonwealth Youth Center
SIDO Staff - TOT	11	06/22/92	06/30/92	Commonwealth Youth Center
Operator/Owner Program	17	07/13/92	07/18/92	Choma - Southern
Operator/Owner Program	17	08/04/92	08/08/92	Kitwe - Copperbelt
Operator/Owner Program	25	08/24/92	08/29/92	Mansa - Luapula
Operator/Owner Program	11	09/01/92	09/04/92	Mumbwa - Lusaka
Operator/Owner Program	10	09/06/92	09/11/92	Monze - Southern
Operator/Owner Program	24	09/21/92	09/26/92	Kabwe - Central
Operator/Owner Program	15	10/05/92	10/10/92	Chipata - Eastern
Operator/Owner Program	18	10/19/92	10/24/92	Kasama - Northern
Operator/Owner Program	10	11/02/92	11/07/92	Mongu - Western
Operator/Owner Program	1	11/16/92	11/21/92	Solwezi - North-West
Operator/Owner Program	3	12/13/92	12/19/92	Mpika - Northern
Operator/Owner Program	1	01/10/93	01/17/93	Mongu - Western
Operator/Owner Program	11	01/31/93	02/06/93	Choma - Southern
Operator/Owner Program	11	02/01/93	02/05/93	Lundazi - Eastern
Operator/Owner Program	20	02/07/93	02/12/93	Chongwe - Lusaka
Operator/Owner Program	16	03/28/93	04/03/93	Mbala - Northern
Operator/Owner Program	8	11/01/93	11/06/93	Mwinilunga - North-West
Operator/Owner Program	8	11/21/93	11/27/93	Lalomo - Southern
Operator/Owner Program	11	11/29/93	12/03/93	Katete - Eastern
Operator/Owner Program	12	12/05/93	12/11/93	Mansa - Luapula
Operator/Owner Program	22	12/06/93	12/11/93	Chilubi - Northern
Operator/Owner Program	20	12/12/93	12/18/93	Kabwe - Central
Operator/Owner Program	15	01/09/94	01/15/94	Namwala - Southern
Operator/Owner Program	17	01/10/94	01/14/94	Mumbwa - Lusaka
Operator/Owner Program	15	01/31/94	02/06/94	Mporokoso - Northern
Operator/Owner Program	20	02/07/94	02/12/94	Kitwe - Copperbelt
Operator/Owner Program	7	02/21/94	02/25/94	Zambezi - North-West
Operator/Owner Program	13	02/21/94	02/25/94	Kaoma - Western
Operator/Owner Program	18	02/21/94	02/27/94	Chibombo - Central
Operator/Owner Program	14	02/25/94	03/05/94	Chalimbana - Lusaka
Operator/Owner Program	17	02/27/94	03/05/94	Samfya - Luapula
Operator/Owner Program	18	03/21/94	03/26/94	Isoka - Northern
Total	469			

* SIDO staff were given the opportunity to improve their teaching skill through a Training of Trainers program
 Training of operators/owners in efficient milling and preventative maintenance of hammermills and owners in better small business management practices

ANNEX F - MARKETING AND PROCESSING CENTERS

BIMZI LIMITED

Contact Mrs Cathy Mwanamwambwa

Grain Marketing Became involved in grain marketing in 1993/94

Membership

Outgrower Schemes

- 1 Kanakantampa, Lusaka East
- 2 Mwachisompola, Kabwe Rural
- 3 Twin Fountain Farm, Kalomo
- 4 Mwembeshi, Lusaka West
- 5 Kaoma, Western Province (to be established during 1994/95 growing season)

Services Provided

- ▶ Supports production of sorghum
- ▶ Provides and delivers seed, fertilizer and packaging material
- ▶ supplies extension services
- ▶ Transport - owns 4 trucks, each with 30 ton capacity

Storage and Processing Facilities

- ▶ 1992/93 season rented flat storage
- ▶ Purchased and constructed storage at rural and central depots
- ▶ Purchased 2 rollermills (not installed)

Financial Stand Has a sound financial standing with a good credit worthiness record and has successfully secured commercial and donor-assisted financing

Technical Know-How

- ▶ Mr Musefwe - former MAFF extension officer
- ▶ Mr Brown - former Lintco extension officer
- ▶ Mr Scherer - former USAID Project Manager
- ▶ Dr Verma - sorghum national seed breeder

Current Status

- ▶ Financed the growing of 1,200 hectares of white sorghum in its four centers through the provision of seed, and basal and top dressing fertilizer

TWIN FOUNTAIN FARM

Contact Mr Klaus Muller, Director of the Institute

Background TFF is an agricultural training institute whose students are largely school drop-outs

Membership

- ▶ Students
- ▶ Villages
 - 1992/93 - 75 farmers
 - 1993/94 - 220 farmers

Services Provided

- ▶ Sorghum Seed, plow parts, fertilizer
- ▶ Transport - 5 ton truck
- ▶ Extension services

Storage and Processing Facilities

- ▶ No storage and/or mill on site

Grain Marketing 1992/93 exported 80 tons of sorghum

Financial Stand Receives financial assistance for activities through BIMZI

Technical Know-How

- ▶ Mr Klaus Muller, Director - Agronomist

Current Status

- ▶ Supplied sorghum, sesame, cowpea and bean seed and the required fertilizer to outgrowers

MUMBO INTERNATIONAL TRADING LIMITED

Contact Ms Katongo-Maine, Director and owner of the company

Background Incorporated in December 1992

Membership (None formally established)

- ▶ Targeting groups of farmers in Mungule area, Kabwe Rural
- ▶ Targeting groups of farmers in Chinsali, Northern province
- ▶ Linking up with farmers through the EC/GRZ Smallholder Project

Services Provided

- ▶ Provide hybrid castor-bean and sesame seed and agricultural inputs
- ▶ Supplies extension services

- ▶ Intentions
 - Purchase crops
 - Process oilseed into crude oil
 - Transport for delivery of inputs and crop purchases
 - Purchase agricultural implements for animal traction agriculture

Storage and Processing Facilities

- ▶ Flat Storage - Mukatasha Road, Lusaka
- ▶ Installing silos and oil extraction plant - White Rose Farm
- ▶ Hammermilling and packaging cassava for Lusaka urban market - ZCBC supermarkets

Financial Stand The company is established in the export of agricultural products, timber and precious stones and gemstones

Technical Know-How (None in place other than owner)

Current Status

- ▶ Multiplying castor-bean and sesame seed for distribution to farmers
- ▶ Exploring outgrower sites
- ▶ Conceptualizing the organization of operations
- ▶ Discussing a joint activity with the Chambeshi Marketing and Development Company

CHIAWA

Contact Chieftainess Chiawa

Background Drought prone area

Membership

- ▶ Musanja Agricultural Farm - 50 farmers each cultivating 1 5 hectares

Services Provided

- ▶ Providing sorghum and sesame seed

Storage and Processing Facilities

- ▶ Three buildings - shop, hammermill operations, and temporary storage
- ▶ Two hammermills
- ▶ No oilseed presses installed

Financial Stand Group is financially weak

Technical Know-How (None in place)

Current Status

- ▶ Provided 20 Kg of sesame seed (enough for 10 hectares) and sorghum seed

MAZABUKA MARKETING COMPANY LIMITED

Contact Mr Jeff Goodson, General Manager

Background

- ▶ Incorporated in June 1992
- ▶ Share capital - 118 shareholders
- ▶ Fee Members - 400
- ▶ Out of a total of 175,000 hectares supported by the company, approximately 15,000 hectares are farmed by small-scale farmers

Membership

- ▶ Shareholders
 - 36 medium and large commercial farmers
 - 82 small commercial producers
 - These commercial producers constitute the majority of the commercial farmers in Mazabuka district
- Member - 400 members including the shareholders

Services Provided

- ▶ Members are loaned maize, sunflower, soybean, sorghum and wheat seed
- ▶ Other inputs provided are fertilizer and diesel fuel for plowing
- ▶ Transportation for inputs and farm products
- ▶ Owns a petrol station and a hardware shop

Storage and Processing Facilities

- ▶ Storage facilities (anticipated installing an additional 24,000 metric ton bulk handling facility)
- ▶ Rents 2 rollermills

Grain Marketing

- ▶ Exported 250 metric tons of sorghum to Botswana

Financial Stand Severely limited by the non-availability of working capital

Technical Know-How

- ▶ Limited expertise in both marketing and processing - relies heavily on the expertise of the General Manager, Mr Jeff Goodson

- ▶ No other technical expertise in place

Current Status

- ▶ Provided sorghum and soybean seed, chemicals for seed treatment, herbicides and fuel for the first year for an outgrower scheme involving 28 farms - 23 of these farmers are commercial farmers, 5 are small farmers (5 to 10 hectares)
- ▶ Produces roller and breakfast meal with the 2 rented rollermills

ANNEX G - HAMMERMILL SURVEY REPORT

Document not supplied

ANNEX H - HAMMERMILL UTILIZATION (HOUSEHOLD) SURVEY REPORT

Document not supplied